2005 ARMY MODERNIZATION PLAN

Purpose

The *2005 Army Modernization Plan* describes how Army efforts are supporting transformation by retaining the best of current capabilities and developing new and improved ones using a comprehensive and balanced approach. This document describes the modernization and investment strategies adopted to enhance the effectiveness of the Current Force while pursuing critical capabilities for the Future Force. Along with the *Army Science and Technology Master Plan*, it provides the rationale and justification for the research, development, and acquisition (RDA) portion of the Army's program in support of Fiscal Year (FY) 2006 President's Budget (PB06). This plan conforms to Army leadership guidance, which is reflected separately in the *Army Strategic Planning Guidance, the Army Campaign Plan,* and the *2004 Army Transformation Roadmap*. Specifically, the *2005 Army Modernization Plan*:

- Communicates FY06 budget priorities, key accomplishments and remaining challenges, and shapes conditions for Army budget planning for future years.
- Describes the Army's transformation efforts, the progress to date, and how the Army's overall modernization strategy supports both the readiness of the Current Force and transformation initiatives as it continually evolves toward the Future Force.
- Describes the current and future strategic environment and the overall strategy and warfighting concepts the Army is expected to use in that environment.
- Explains how Army readiness and transformation initiatives are supported by modernization efforts across the entire breadth of doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF).
- Describes the Army's modernization and investment strategies and complements the Army's portion of the FY06 budget submission, which provides schedule and cost information.
- Provides information on selected programs that are critical to the Army's efforts to enhance capabilities of the Current Force and continually transform to improved Future Force capabilities.

The *Army Modernization Plan* does not offer:

- Specific details on all RDA programs. This information is provided in other documents, to include the *United States Army Weapon Systems 2005*.
- Specific commitment for budget figures beyond FY06. Any information reflected for these years represents an Army planning estimate and is subject to change.
- Modernization schedules for specific units that are published and disseminated separately.

2005 ARMY MODERNIZATION PLAN

Overview and Executive Summary

Our Army at War and Transforming

The Army, like the nation itself, remains fully engaged in an ongoing war that promises to be long in duration and with the highest stakes for today's and tomorrow's generations of Americans. While participating fully as a member of the Joint Force in the global war on terrorism, the Army is carrying out the most demanding role in this conflict and has had an average of 300,000 Soldiers deployed and forward-stationed in 120 countries. From approximately 125,000 Army Soldiers in Iraq and Afghanistan, who are bearing the brunt of this war in combat, to the tens of thousands of Soldiers in other critical areas of the world, and to the remainder of the Army at home providing the deployable base for future expeditionary missions and for vital homeland security tasks, the Army as a whole is committed to succeeding in all missions assigned.

Being ready to meet today's security requirements is the Army's highest priority and one that cannot and will not be compromised. Concurrent with this imperative, the Army has embarked on a dynamic process of transformation, building on the lessons learned today and adapting for future needs. The requirements for prosecuting war today and securing readiness tomorrow are formidable and costly, but the Army remains determined to do what is necessary to fulfill its responsibilities to the nation.

All 18 of the Army's divisions, a large number of the remaining conventional forces, and the majority of our invaluable Special Operations Forces (SOF) have seen operational action in the recent past. In 2004, the Army and its sister Services also completed the largest rotation of forces since World War II. This effort has involved the full participation of both Active and Reserve Components (AC and RC), as over 240,000 RC Soldiers have served as an integral part of these operations and over 150,000 are currently mobilized and performing a diverse range of missions worldwide.

Today's Army is the foundation of our warfighting readiness and the instrument for fulfilling missions assigned by the President and Secretary of Defense in support of regional combatant commanders. The Soldier remains the centerpiece of the Army and is indispensable to the Joint Force. Today's Soldier is adaptive and confident and is infused with values and culture summarized in the term "Warrior Ethos." This ethos is highlighted by the commitment to mission first, refusal to accept defeat, and the firm belief that military service is much more than just a job. The Soldier deployed today is the Army's greatest asset and is the focus of our efforts, now and into the future, as the Army continues with its dynamic adaptation and transformation.

Recent operations in Iraq and Afghanistan have vividly highlighted the importance of the individual Soldier and the effectiveness of Army units in conducting sustained land warfare for the Joint Force. Protecting these Soldiers and improving their overall capabilities is an enduring mandate for the Army. To achieve this, the Army is maintaining a careful balance between providing operational readiness today and rapidly improving capabilities

for the future. This endeavor includes building upon the significant investments in modernizing the force that have already been made, incorporating new capabilities as rapidly as possible, and implementing major restructuring initiatives to apply current lessons and anticipate future requirements.

To facilitate this major undertaking, Army leadership last year established an internal review of a wide variety of "focus areas" to identify the status of ongoing efforts and the adjustments needed to improve support to the Joint Force and advance effective joint interdependency. The results of this introspective examination, combined with the results of the Army's participation in the Joint Capabilities Integration and Development System (JCIDS), have resulted in significant policy and budgetary decisions that are reflected in the Army's component of the PB06. Overall, these decisions are intended to fulfill the Army's strategic objectives of providing (1) trained and equipped Soldiers and developed leaders, and (2) relevant and ready land power to the combatant commander as part of the Joint Force. The ultimate objective of all these efforts is to produce a campaign-quality Army with joint and expeditionary capabilities, which will remain a vital and indispensable member of the Joint Force.

Accomplishments and Priorities

In PB06, the Army emphasizes its priority of sustaining our global commitments and maintaining the current readiness of the force. Concurrently, the Army continues to pursue an ambitious and essential transformation effort to produce a ready and relevant force that is more capable and modular and thus better prepared to function as a member of the Joint Force. Due to considerable support from Congress and the Department of Defense (DOD), the Army has already established a solid foundation and made significant progress in the past years. Additional major efforts, however, are underway that will require increased levels of funding and support to ensure success. Since the *2004 Army Modernization Plan* and in conjunction with the proposed funding contained in PB06, the Army has:

- Placed the highest priority on sustaining our global commitments and particularly on supporting forces deployed in the global war on terrorism—especially those in Iraq and Afghanistan—and rapidly applied lessons learned from these operations to adjust Army plans and initiatives. Our second priority remained the focus on transforming the Army.

- Managed intensively every aspect of equipping Soldiers for operational tasks to ensure equipment is properly tested, acquired and distributed as rapidly as possible; priority has been to providing the latest in force protection equipment such as improved body armor, up-armored High Mobility Multipurpose Wheeled Vehicles (HMMWV) and additional ballistic protection for other vehicles and selected aviation platforms. In 2004, the Army provided Soldiers with a quick-reaction capability (QRC) systems called Warlock, a family of systems designed to counter radio-controlled improvised explosive devices (IEDs). Warlock is currently protecting Soldiers from IEDs in Iraq and Afghanistan. The Rapid Fielding Initiative (RFI) was another means used to accelerate the fielding of important Soldier systems with the latest state-of-the art enhancements, as was the Rapid Equipping Force (REF) process, which accelerated items critical for immediate operational requirements.

- Established an Armoring Task Force to identify and anticipate requirements for Army tactical vehicles and develop an integrated strategy, determine ways to accelerate production and installation, and determine funding required to procure armored solutions. The Army's objective is to ensure that all tactical wheeled vehicles in Iraq and Afghanistan have some level of armor protection by June 2005. Initial priority to light tactical vehicles (HMMWVs) has shifted to medium and heavy tactical vehicles. Accelerated domestic production and installation and in-theater application of armored protection are being complemented by the work of the Army-led Joint Improvised Explosive Device (IED) Defeat Task Force, as well as the introduction of new tactics, techniques and procedures to increase the protection and survival of our forces.

- Maintained and expanded the significant ongoing efforts for "setting the force" that improves the readiness for Army units preparing for deployment and restores readiness for those units returning from operations. This critical initiative was enabled by the indispensable aid of supplemental appropriations that are serving as the essential bridge between past and future annual budgets.

- Initiated a major restructuring of the entire Army concurrent with ongoing operations, building upon the initial temporary increase of 30,000 in Army end strength, and enabled by supplemental appropriations. This comprehensive effort will produce units more responsive and relevant to the requirements of regional combatant commanders and capable of joint interdependency. The core of this initiative is the creation of modular formations, with Brigade Combat Teams (BCTs) as the foundation, that are more self-contained, sustainable and capable force packages. The end result will be an increase in the number and quality of units available to deploy and support operational requirements.

- Conducted the successful modularization and reorganization of the maneuver brigades of four active duty divisions (3rd Infantry, 10th Mountain, 101st Airborne, and 4th Infantry) and will complete the reorganization of their support brigades and headquarters by the end of 2005. These actions and similar conversions in other active duty divisions will add 10 BCTs to the AC force structure by 2006. The option exists for the creation of an additional five BCTs in 2007 (for a total of 48 BCTs), contingent upon a subsequent decision. Modularization will also apply to all Army National Guard (ARNG) brigades beginning in 2005, resulting in the conversion of 34 BCTs by 2010.

- Completed the successful validation and operational fielding of the 1st Brigade, 25th Infantry Division, as the second Stryker Brigade Combat Team (SBCT); the unit assumed a mission in Iraq that was successfully conducted by the 3rd Brigade, 2nd Infantry Division, the first SBCT to be fielded. Fielding is underway for the third SBCT—the 172nd Infantry Brigade—in Alaska, which will achieve operational availability in 2005. The Army has current plans to deploy a total of six SBCTs by 2008, with one SBCT scheduled for deployment in Europe in 2007. Additionally, in response to increased congressional support and authorization, the Army has initiated planning for the potential fielding and stationing of a seventh SBCT, the details of which are submitted in conjunction with PB06.

- Continued with critical balancing of the AC and RC that will ultimately involve 100,000 positions and will enhance the support for new modular force structure. Restructured approximately 30,000 spaces in high-demand/low-density units, such as civil affairs, to meet the pressing requirements of the combatant commands, relieve stress, and increase capabilities to conduct long-duration stability operations. In addition, restructured about 10,000 spaces between the components to reduce the need for involuntary mobilizations.

- Initiated restructuring initiatives for Army SOF (Special Forces, Rangers, special operations aviation, civil affairs, psychological operations and combat service support) to increase their self-sufficiency and sustainment and allow for greater integration with modular conventional forces.

- Adopted Unit Force Stability and several other important force stabilization initiatives to lessen the effects of the high operational tempo and to ensure a more stable and predictable lifestyle for Soldiers and their families. Related to Soldier and family support, implemented programs such as Deployment Cycle Support, Disabled Soldier Support System, and Rest and Recuperation Leave programs to improve the quality of personnel support to deployed Soldiers and their families.

- Continued with a new approach to aviation restructuring following the PB05 decision to terminate Comanche and devote valuable resources to more critical near-term aviation needs as well as the transformation into a modular, capabilities-based maneuver arm.

- Announced a major restructuring in the Future Combat Systems (FCS) program to accelerate the spiral application of emerging technologies to existing systems and current units, while continuing with the development of the FCS as the link to the future Army.

Highlights of the FY06 Budget

The *2005 Army Modernization Plan* is submitted in conjunction with the release to Congress of PB06, which supports an Army at war and operationally engaged while also continuing to support significant transformation into a more capable and modular force. Specifically, the Army's portion of the PB06 submission provides funding for the following:

- Maintains essential emphasis on improving the readiness of the Current Force by devoting over $15 billion in the program to the recapitalization of systems in this force and by supporting efforts to restore full readiness for future missions for units involved in recent operations.

- Programs over $13 billion toward the modular conversions of 77 BCTs. This funding, in conjunction with the Army's supplemental strategy and the recent DOD commitment to add $5 billion per year from FY07-11 to support conversion requirements, will permit completion of the Army's modular transformation by FY10.

- Provides $3.1 billion to complete funding of six SBCTs by 2008 and submits fielding and stationing plans for the potential fielding of a seventh SBCT.

- Accelerates the development and spiraling forward of transformational technologies into Current Force units by restructuring the FCS program and freeing up approximately $9 billion for this purpose.

- Leverages joint, Army component, academic, and industry efforts to take advantage of technology to support the warfighter. In this regard, focuses science and technology (S&T) investment of approximately $10.9 billion over the Future Years Defense Plan (FYDP) in the development of capabilities primarily applicable to the Future Force, though with potential application to Current Force units and systems.

The Army is committed to preserving and improving the capabilities and operational readiness of the Current Force and supporting our Soldiers deployed and engaged in the global war on terrorism. To accomplish this, the Army has begun to institutionalize a fundamental restructuring into more modular formations that will be increasingly responsive and more capable of executing all missions assigned the Joint Force today and in the future. This effort is a fundamental part of the Army's continuing transformation into a more ready and relevant force. It is also built upon the significant development and application of new technologies, including the increased efforts to spiral these emerging technologies into existing systems as soon as feasible. These overall modernization efforts include an ongoing assessment of the associated risks in order to maintain the correct balance between current and future readiness and requirements.

Due to the considerable support from Congress and DOD in the form of annual and supplemental appropriations, much progress has already been made and more is underway. Continued and increased support and funding will be required for the Army to succeed in both the ongoing global war on terrorism and in the evolution of an improved force capable of meeting the land power needs of the Joint Force. Our nation and our Soldiers demand and deserve our best efforts, and the Army remains firmly committed to accomplishing the tasks we are facing in the days ahead.

2005 ARMY MODERNIZATION PLAN

Strategic Framework

Strategic Environment and Posture

The United States is a nation at war and involved in a struggle that involves all elements of national power in a long-term campaign to defeat enemies who threaten our survival and way of life. The strategic environment has changed significantly since the end of the Cold War, and the events of 11 September 2001 dramatically demonstrated that we had entered a new era of conflict with different challenges to overcome. Although traditional challenges will remain, new and unforeseen ones have emerged that require increased efforts to adapt structures and methods to deal with and overcome them. The current strategic environment now includes the growth of failed and failing states, non-state actors, the danger of states with newly acquired weapons of mass destruction (WMD), and potentially hostile states employing asymmetric means. Most apparently today, the environment is characterized by a serious threat from dangerous anti-United States and anti-Western terrorist groups seeking to target U.S. and allied interests worldwide. All of these factors,

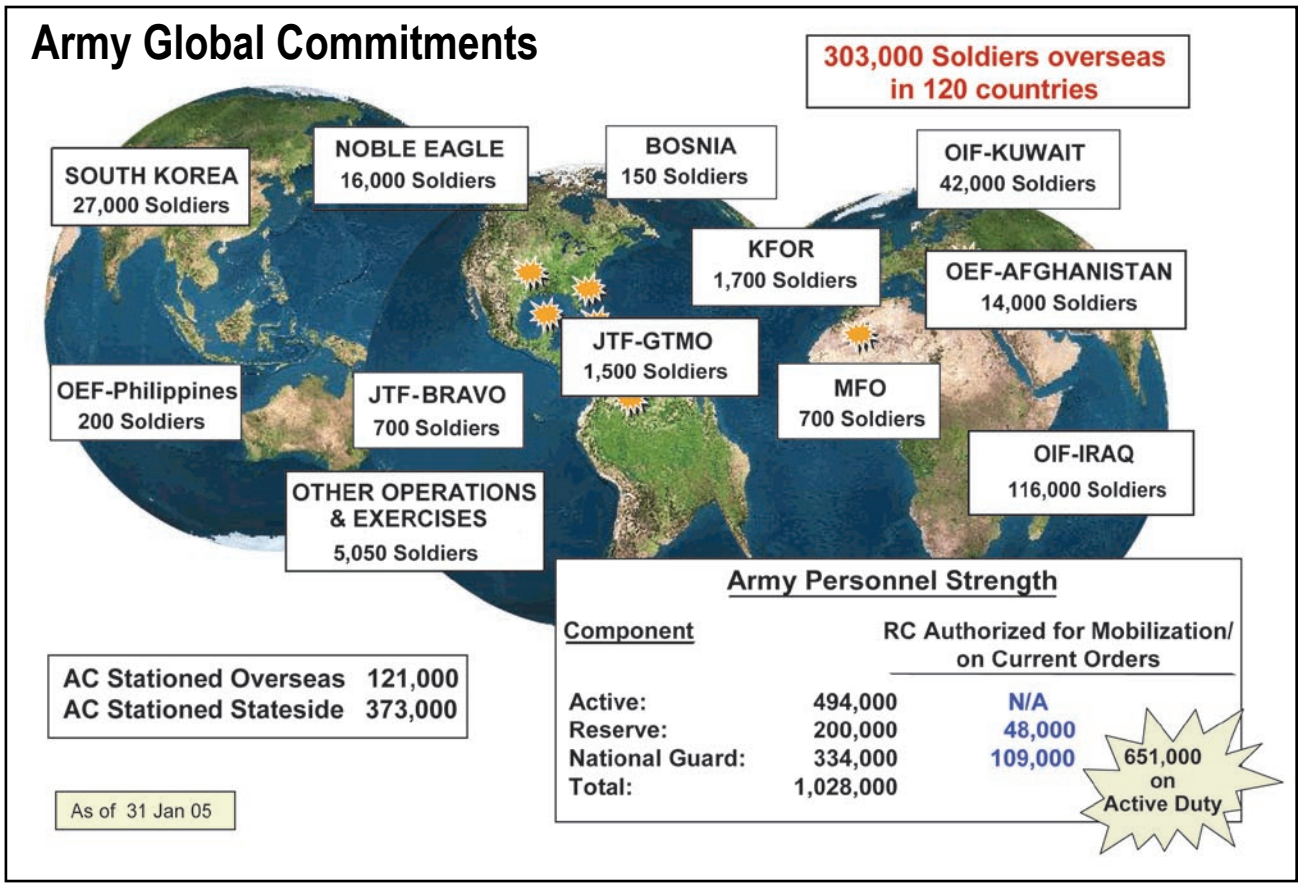

Figure 1. Army Global Commitments

most especially the current terrorist threat, represent not only the imperative for the military and Army to change, but also influence the method by which changes take place.

Within this new strategic environment, Operations Enduring Freedom and Iraqi Freedom have been major undertakings by the United States and have involved a significant commitment of Army forces as part of multiple joint operations conducted by the regional combatant commanders (Figure 1). Both operations, though containing many conventional aspects, have provided valuable insights concerning the changing operational environment, the adaptability of our enemies, and the complexity of challenges within the Joint Operational Area (JOA).

Army forces are assuming a more significant role in stability operations, which consistently display characteristics and costs organic to major combat operations. In the new strategic environment, stability operations are no longer considered to be "lesser included" missions. The lessons learned from ongoing operations confirm the critical importance and required level of involvement of all components—AC and RC—and civilian elements of the Army structure necessary for the current and future joint fight.

The emergence of irregular challenges and burdens of post-conflict operations have stretched the U.S. military. Protection from geographic distances has diminished, while new challenges and threats have grown. Current trends toward regional and global integration may render interstate war less likely, but stability and legitimacy of conventional political orders are vital to U.S. interests. A nexus of dangerous new actors, methods and capabilities will imperil the United States, its interests and its alliances in strategically significant ways.

Persistent and Emerging Challenges

The National Defense Strategy (NDS) advances a typology of four types of interrelated, persistent and emerging security challenges that more accurately reflects the diverse array of threats of the new strategic environment. The new classification does not create precise or discrete boundaries between the types of challenges, and adversaries will seek to employ a variety of capabilities against us. Following are the four broad types of likely challenges:

- **Irregular challenges** are unconventional methods adopted and employed by non-state and state actors to counter stronger state opponents.
- **Traditional challenges** are largely represented by states employing legacy and advanced military capabilities and recognizable military forces, in long-established and well-known forms of military competition and conflict.
- **Catastrophic challenges** involve the surreptitious acquisition, possession and possible terrorist or rogue employment of WMD or methods producing WMD-like effects.
- **Disruptive future challenges** are those likely to emanate from competitors developing, possessing and employing breakthrough technological capabilities intended to supplant an opponent's advantages in particular operational domains.

To achieve success against these challenges, we must be capable of operating across the spectrum of conflict in a wide variety of conditions. We must rapidly transition between missions with appropriate force mix and capabilities. We must integrate activities in joint, interagency and multinational (JIM) environments in order to

address more diffused and networked adversaries by integrating all elements of power—diplomatic, military, economic and information in a more interconnected security environment within a global strategy.

Transformation as a Strategic Imperative

To ensure U.S. forces continue to operate from a position of overwhelming military advantage to deal with these challenges and in support of strategic objectives, we must embrace the present new realities. First, the United States will be increasingly challenged by a diverse and dangerous set of potential adversaries ranging from rising regional powers to terrorist movements and irresponsible regimes unbounded by accepted restraints governing international behavior. Second, Iraq has not stabilized, and it is still unclear how long the United States will be involved there. Third, the world looks to the United States for leadership in a crisis—to the point of hazarding inaction without our participation. Finally, in many instances, only the United States has the requisite capabilities to effect enduring resolutions and acceptable outcomes for complex crises. The future Joint Force must retain a quality of adaptive dominance—the ability to dominate any situation regardless of how an adversary reacts. This adaptive quality requires a Future Force with embedded versatility and adaptive Soldiers and leaders who can master the critical variables organic to the future operational environment. The primary challenges for the Army in dealing with adaptive threats are summarized in Figure 2.

The National Security Strategy, the National Defense Strategy, and the National Military Strategy

In September 2002, the National Security Strategy (NSS) was published to provide a

Figure 2. Adaptive Threats

foundation for current operations as well as vision to meet future challenges. It seeks to make the world not just safer but better through a unique set of ends, ways and means (Figure 3).

In fulfilling its responsibilities to support the NSS, the DOD has developed and updated as of fall 2004, a defense strategy that seeks to reach the goals set forth in the President's strategy by extending U.S. influence, prosperity and goodwill while preserving the nation's security through a reliable environment where both the United States and its allies can prosper in freedom. The 2004 NDS was built upon the strategy outlined in the 2001 Quadrennial Defense Review (QDR). Acknowledging that much has changed since the QDR was written, the NDS seeks to update the strategy (written in the ends, ways and means construct) with operational lessons learned (Figure 4).

The 2004 National Military Strategy (NMS), signed by the Chairman, Joint Chiefs of Staff (CJCS) on 11 May 2004, seeks to operationalize the NSS and NDS. The NMS (Figure 5) describes how the Armed Forces will achieve the "ends" of the NSS and NDS by defining military objectives for the near term. The NMS also describes the vision for ensuring the dominance of the Joint Force in the future (note: the 2004 NMS supersedes *Joint Vision 2020*).

Evolving the "1-4-2-1" Force-Sizing Construct

The military means with which the strategy will be executed is through the Joint Force construct. The Joint Force must be an adaptable,

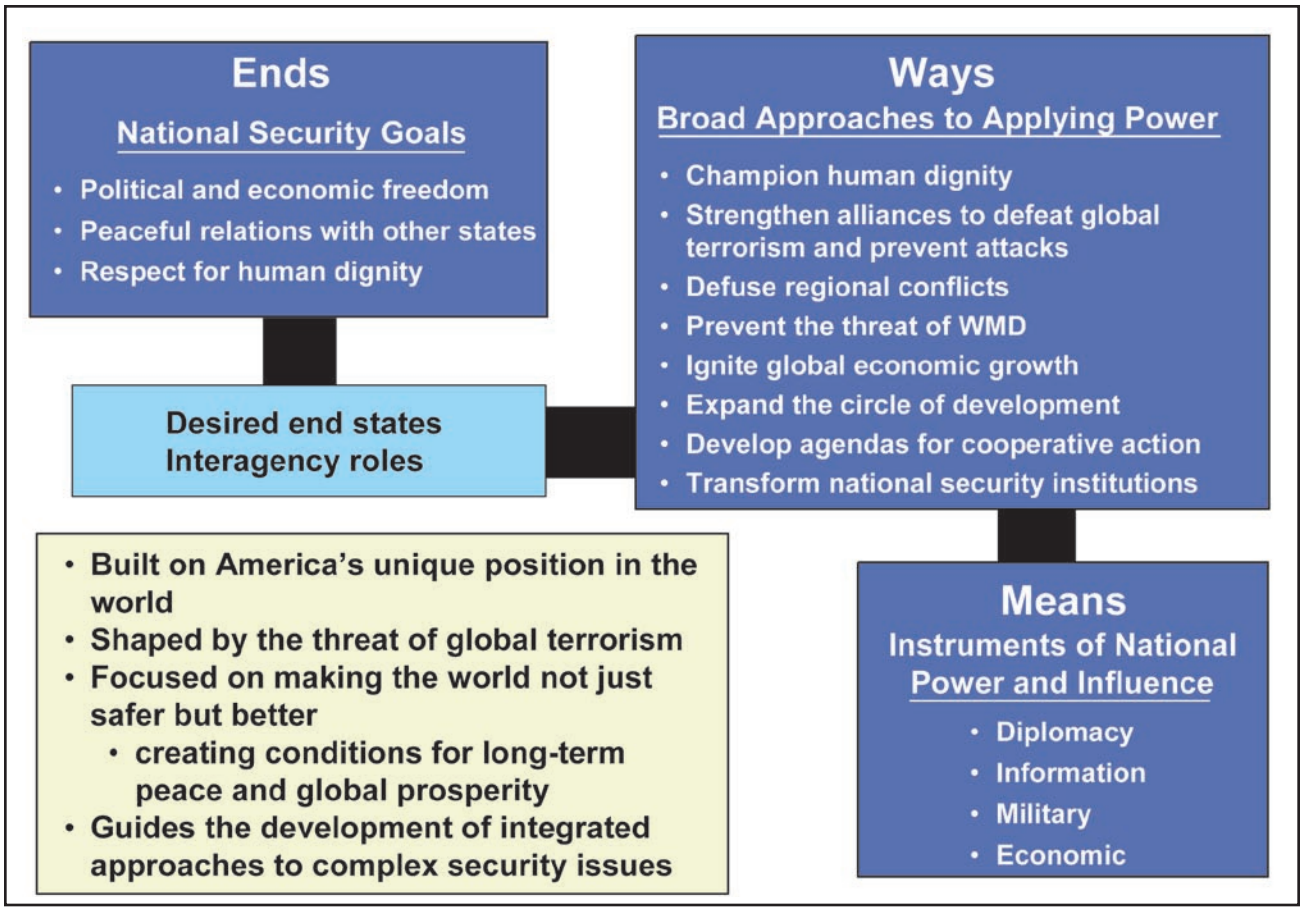

Figure 3. National Security Strategy Elements

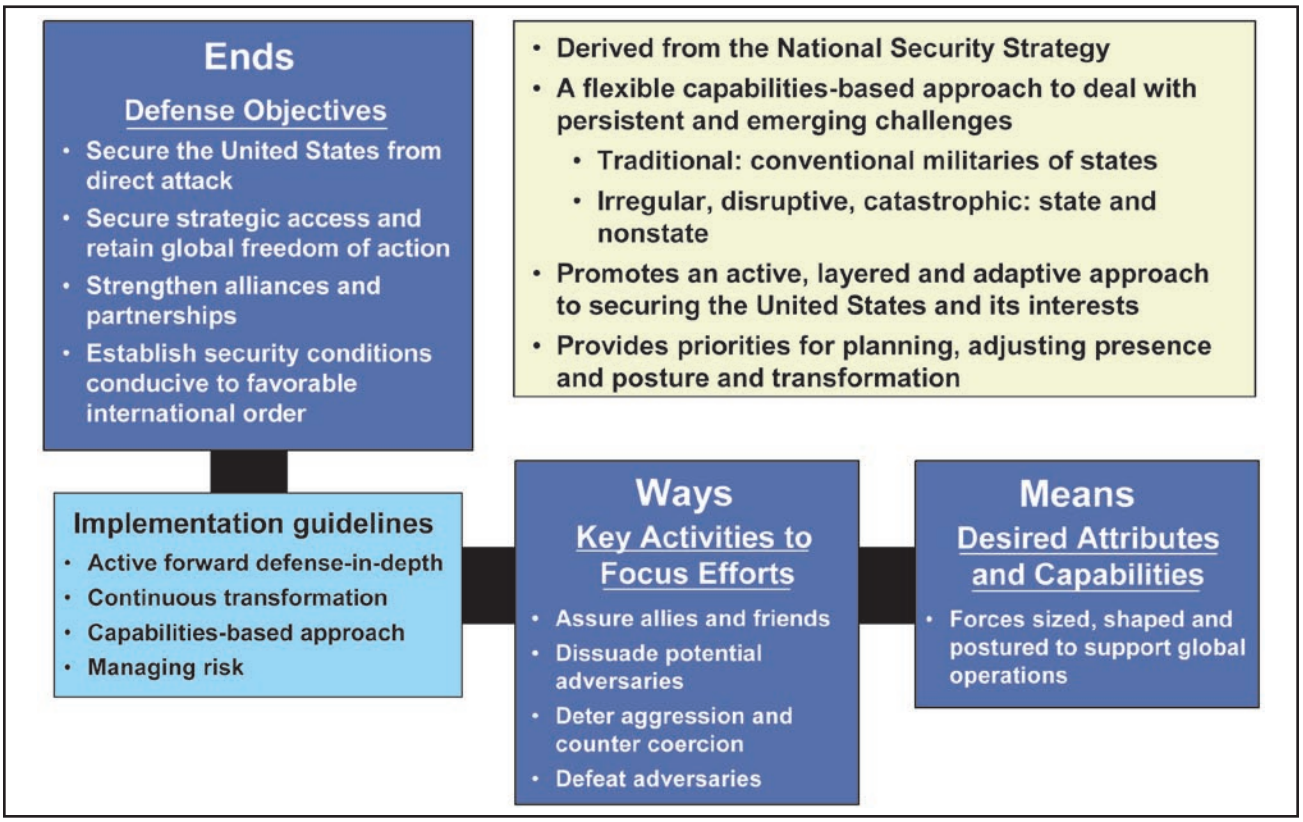

Figure 4. National Defense Strategy Elements

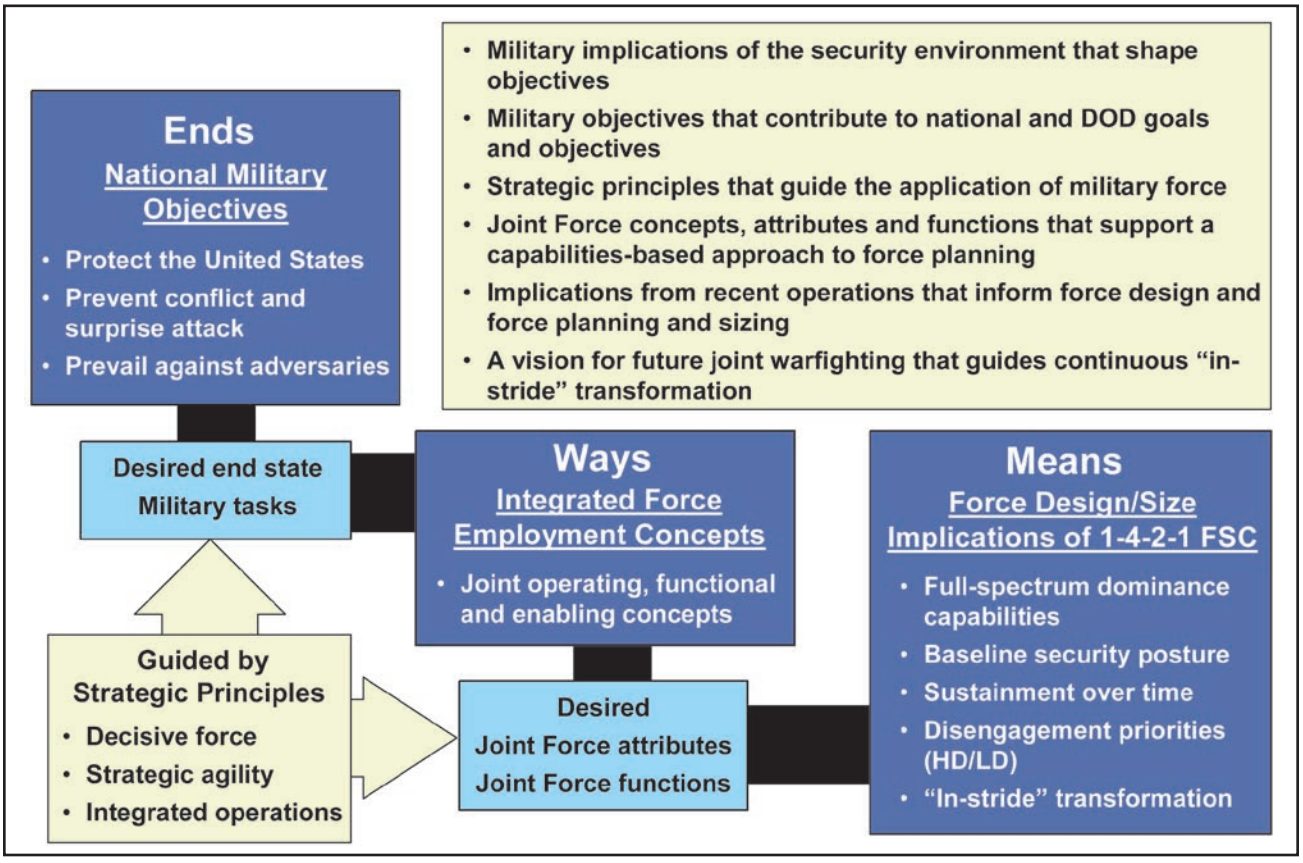

Figure 5. National Military Strategy Elements

fully integrated organization that is networked with all other instruments of national power. The 2001 QDR laid down a force-sizing construct that shapes and sizes the means of the defense strategy. The 1-4-2-1 model, like other forms of strategic guidance, has been updated (Figure 6) to reflect prudent lessons and revelations gained through lessons learned from our ongoing global war on terrorism. Although not specifically enumerated, capabilities and force structure for stability operations and for the war on terrorism are now included in the construct as elements that span the entire range of activities described in the construct.

The 2004 Army Strategic Planning Guidance: "Ends, Ways and Means"

The *Army Strategic Planning Guidance* (ASPG), Section I of *The Army Plan*, is the Army's institutional strategy and serves as its principal long-range planning document. The ASPG expresses the senior leadership's intent for how the Army will fulfill its Title 10 obligations to the Joint Force and the nation in support of and nested under the NDS and NMS.

Last year's ASPG provided a new vision and direction for the Army in the context of a security environment fundamentally changed by the global war on terrorism. The updated ASPG does not alter that direction significantly, but it does identify areas where additional emphasis is needed to maintain momentum for transformation and change. To provide necessary focus, the Army is introducing ten new strategic imperatives. These strategic imperatives will guide how the Army organizes, trains and equips its forces to ensure mastery of the full range of military operations and dominance in armed conflict.

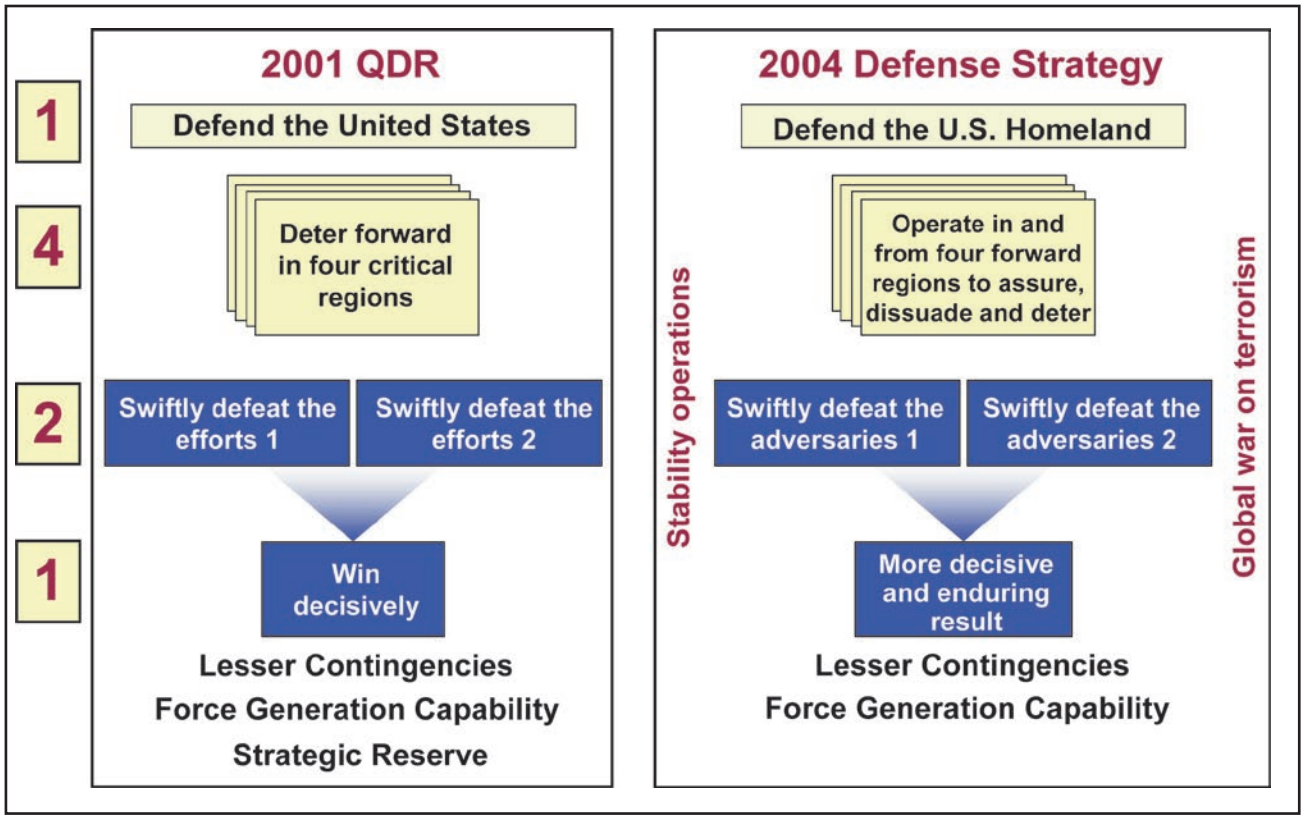

Figure 6. Force Size Construct

This year's ASPG expresses the Army strategy (Figure 7) to provide capabilities to the combatant commander in terms of "ends, ways and means." The strategic objectives are the "ends" of the Army strategy. They explain what the Department of the Army (DA) does to support the national strategy. These two objectives are the basis for all Army strategies. There are two types of "ways." The first of these is our Title 10 functions: train, organize and equip; these functions are constant and mandated by law. The second category is the Army's strategic imperatives, which are not static. They elaborate on how the Army should focus itself to be relevant and ready to meet the challenges of the current and future security environment. The "means" of the Army's Strategy are our people and the assets the Army uses to perform its functions.

Quadrennial Defense Review

The congressionally-directed QDR process is an important element in influencing the development of future defense and Army strategies in light of ever-evolving circumstances. The National Defense Authorization Act for Fiscal Year 2000, Public Law 106-65, directed, "The Secretary of Defense shall every four years, during a year following a year evenly divisible by four, conduct a comprehensive examination (to be know as a quadrennial defense review) of the national defense strategy, force structure, force modernization plans, infrastructure, budget plan, and other

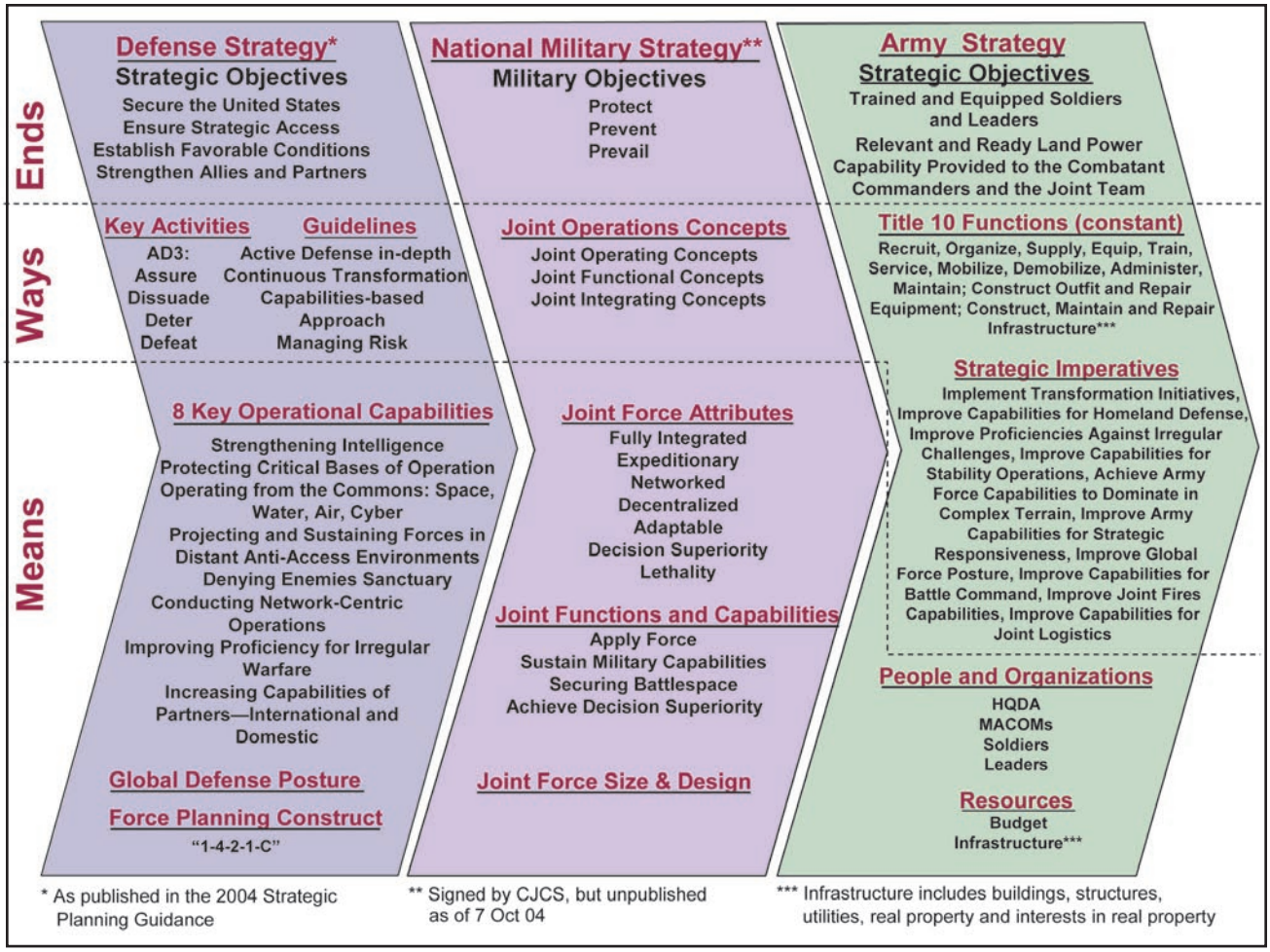

Figure 7. Army Strategy

elements of the defense program and policies of the United States with a view toward determining and expressing the defense strategy of the United States and establishing a defense program for the next 20 years. Each such quadrennial defense review shall be conducted in consultation with the Chairman of the Joint Chiefs of Staff." The National Defense Authorization Act for FY 2003, Public Law 107-314, provides additional time to complete the QDR and submit the report to Congress. For QDR 05, this translates to on or about 1 February 2006.

The QDR report is expected to address:

- Strategy and force structure
- National security interests
- Threats and scenarios
- Assumptions
- Effects of operations other than war and small-scale contingencies on high-intensity combat
- Engagement policies for conflicts lasting more than 120 days
- RC roles and missions
- Tooth-to-tail ratio
- Lift (strategic and tactical, sealift and ground transportation)
- Required forward presence and prepositioning
- Inter-theater resource shifting
- Unified Command Plan revisions
- Effect of anticipated technologies (ensuing 20 years)

Overall, this process and the ensuing report will be an important vehicle to shape, prepare and present long-range analyses and information so that the capabilities, structure and resources of the future Army, as well as those of the other Services, best support the needs of the nation.

Joint Concepts, Capabilities and Interdependencies

The context for developing future military concepts and capabilities is the linkage between how the Joint Force operates today and the vision for the future. The joint concepts and associated capability requirements under development by the Joint Staff, combatant commands and Services influence Army transformation efforts. These concepts are intended to serve as the engine of change to guide the transformation of the Joint Force to operate successfully in the next 10 to 20 years.

Joint concept development occurs within an evolving framework that includes the overarching Joint Operations Concepts (JOpsC), Joint Operating Concepts (JOCs), Joint Functional Concepts (JFCs) and Joint Integrating Concepts (JICs), as shown in Figure 8. The JOpsC describes how the Joint Force intends to operate 10 to 20 years in the future across the entire range of military operations. The JOpsC also provides the operational context for transformation by linking strategic guidance with the integrated application of joint-force capabilities. The four JOCs describe how a future joint force commander will plan, prepare and conduct specific operations and identify the capabilities required for each. The JOCs are homeland security, strategic deterrence, major combat operations and stability operations.

Joint functional concepts articulate how the future joint force commander will integrate a set of related military tasks to attain capabilities required across the range of military op-

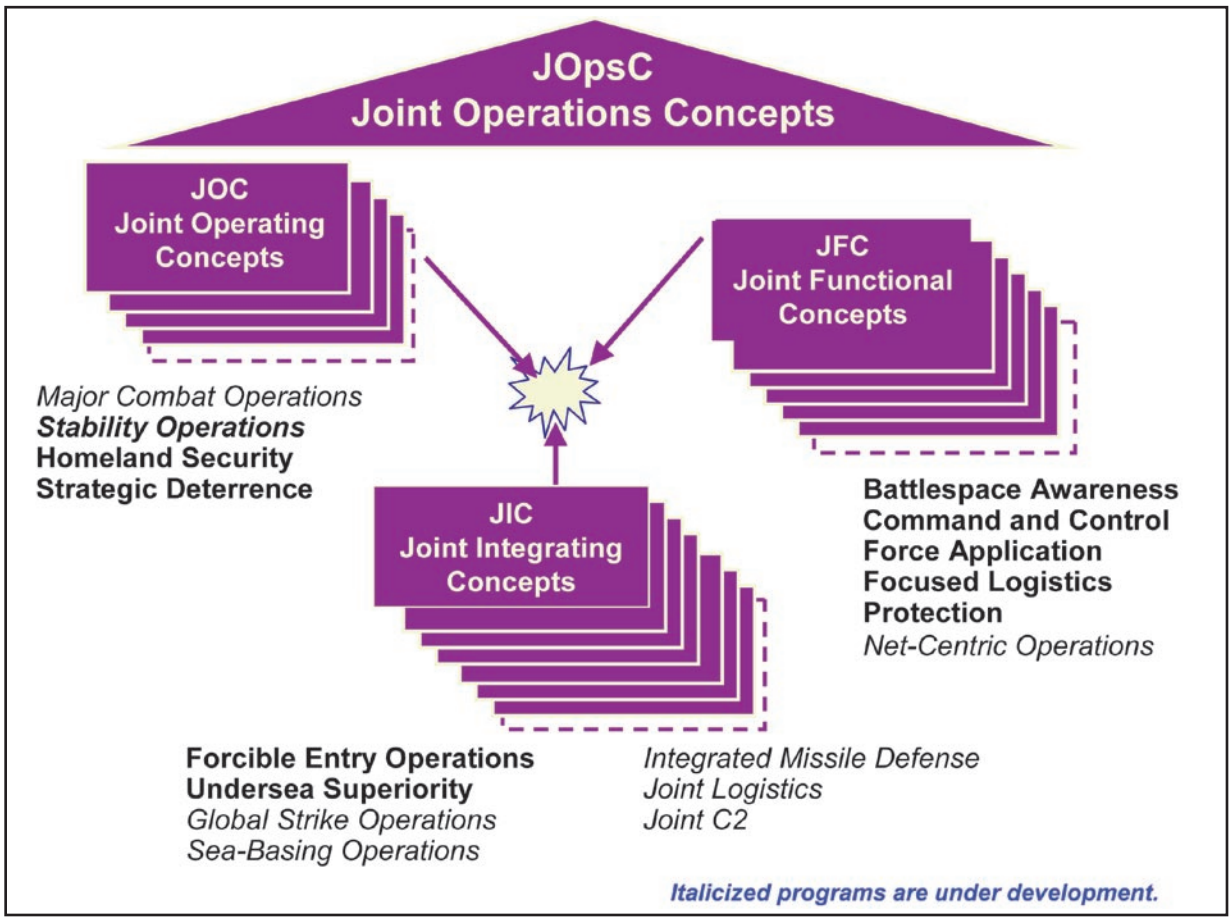

Figure 8. Joint Concepts

erations. They are broad, but derive specific context from the joint operating concepts. JFCs allow for experimentation and measures of effectiveness.

Joint integrating concepts are intended to be building blocks for JOCs or JFCs, and will describe how a commander integrates functional means to achieve operational ends. They are anticipated to focus on a narrow portion of a JOC or JFC and further describe capabilities in terms of essential tasks, attributes, and measures of effectiveness and performance that form the means to identify capability gaps and redundancies.

The Army and our sister Services have made significant improvements in the planning and conduct of joint operations, progressing from joint interoperability (the assurance that Service capabilities can work together smoothly) to joint integration (collective efficiency and tempo). Yet joint operations continue to suffer from a myriad of gaps and seams that often hinder mission effectiveness. For example, targeting opportunities are missed because deconfliction and prioritization takes too long; sustainment can be delayed due to inadequate asset visibility and factional pipeline management. These gaps and seams can result in suboptimal force efficiency as well. This occurs when, at the expense of other valid requirements, individual Services deem it necessary to compensate with organic capabilities that, in terms of total aggregated force structure, may be overly redundant.

The Services must collectively progress from merely deconflicting their activities to achieving joint interdependence. Joint interdepen-

dence is the purposeful reliance on other Service and joint capabilities to maximize their complementary and reinforcing effects, while minimizing Service vulnerabilities in order to achieve the mission requirements of the joint force commander. What differentiates joint interdependency from joint interoperability and joint integration is the degree by which the Services collectively embrace the altruistic concept of purposeful reliance. Commitment to joint interdependency must be preceded with a prerequisite understanding of the differing strengths and limitations of each Service's capabilities, clear agreement about how those capabilities will be integrated in any given operational setting and, above all, absolute mutual trust that, once committed, capabilities will be employed as agreed in the major areas of joint interdependency.

There must be a shared foundation on which the Services build their respective transformation efforts. Without such, each Service will invest its respective treasure developing their individual versions of joint warfighting and based on their individual prioritizations. The Army has invested much treasure in restructuring itself into modular brigade-based units and developing revolutionary FCS; however, these significant initiatives will be of marginal value to the joint force commander unless we can collectively improve strategic and operational responsiveness.

Joint interdependency, as we have defined and developed it, inarguably forms this shared foundation. Beyond that, joint interdependent projection, protection, support and sustainment will optimize the Services' capabilities to best allow the joint force commander to effectively take the fight to a land-based enemy. It also provides the best means of maintaining the right force structure mix capable of meeting the breadth, depth and longevity of the current fight, while still maintaining the necessary focus on threats in the future operational environment. Below are five key areas for development effort to advance joint interdependency:

- **Joint Battle Command** represents a joint force commander's ability to dominate any adversary or situation in full-spectrum operations, and to make qualitatively better decisions than an adversary at a tempo that cannot be matched. The development and fielding of integrated joint battle management command capabilities will enable U.S. forces to collaboratively plan and rapidly share an common, accurate picture of the battlespace. The future Joint Force will exercise battle command within an inherently joint, top-down network that provides common situational awareness. To succeed, this effort requires the alignment and synchronization of three major elements: operational concepts and doctrine, horizontally and vertically integrated systems, and the joint technical architecture standards and Global Information Grid where layered networks are nested.
- **Joint Air and Missile Defense** integrates the counters to the threat from ballistic and cruise missiles, armed and unarmed unmanned aerial vehicles (UAVs), and rockets and missiles have grown steadily in light of U.S. dominance against the manned, fixed-wing threat and as sophisticated missile technology became available on a wider scale. WMD proliferation poses a direct and immediate threat to the security of U.S. military forces and assets in overseas theaters of operation, our allies and friends, as well as our own country. An interdependent joint air and missile defense "system of systems" must be capable of providing very high-confidence protection that extends beyond the JOA and includes the Joint Force, regional

coalition partners and their forces, our homeland and other agencies.

- **Joint Fires and Effects** mitigates risk and reduces reliance on organic fires in a joint expeditionary environment. Joint fires and effects interdependency involves ensuring timely support and optimizing the overall capability of the Joint Force within a distributed battlespace. The future joint fires system of systems will use a collaborative information environment to sense, understand, decide and act faster than an adversary, gaining the desired operational effects with a combination of lethal and nonlethal means. Linked through an effective joint command and control system, the American Soldier will have the entire target acquisition and engagement resources of the theater at his fingertips.
- **Joint Force Projection** represents both the current and projected suite of strategic lift capabilities that is insufficient to meet DOD swiftness goals for strategic responsiveness of the Joint Force within the NMS. In particular, neither the airlift nor the sealift programs projected for the next 20 years fulfills force projection capabilities gaps. With respect to campaign execution and operational agility, the currently programmed Joint Force also lacks the intra-theater capability to execute and sustain simultaneous operations, distributed within a noncontiguous battlespace.
- **Joint Sustainment** transitions us from Service-centric, supply-based, regionally focused logistics systems to a single, fully integrated, globally synchronized, end-to-end distribution-based system capable of providing agile, precise and responsive support to tailored expeditionary joint forces conducting distributed operations. Dramatic changes in the joint operational environment prescribe operational maneuver of forces from strategic distances directly to the operating area, wherein they will conduct simultaneous distributed operations within a nonlinear and noncontiguous framework. Successful employment of this concept demands the concurrent transformation and employment of a corresponding sustainment concept; to do otherwise carries the unacceptable risk of deploying forces that cannot be effectively supported.

2005 ARMY MODERNIZATION PLAN

Army Transformation

Transformation is a process that anticipates the changing nature of military competition and cooperation through new combinations of concepts, capabilities, people and organizations. These combinations employ the nation's advantages and protect against asymmetric vulnerabilities to sustain the U.S. strategic position, helping underpin peace and stability in the world. The Army presently is fully committed to pursuing the most comprehensive transformation of its forces since World War II. These transformation efforts are both evolutionary and revolutionary in nature, and they are intended to improve Army and Joint Force capabilities to meet the demanding requirements of a nation at war as well as the future full-spectrum requirements. They also encompass more than just materiel solutions and involve a wide array of adaptation, development and experimentation, as well as application of lessons learned in all aspects of Army institutions and operational formations.

Transformation Strategy: Current to Future Force

In recent years, the Army has built upon its vision for a Future Force that is more capable of rapid strategic response and tactical dominance across the full spectrum of military operations. The primary instrument for accomplishing this goal is a dramatic process of change—Army transformation—that aims at making the Army more ready for today's missions and more relevant in its capability to serve as an essential element of the overall Joint Force. Along with Army transformation, two other critical components made up the substance of the Army's vision for the future—readiness and people. Readiness was identified as the Army's top priority for near-term responsibilities to the nation, with people highlighted as the centerpiece of the Army and its critical link to the nation. This entire effort has always been linked to the responsibility of the Army to serve the nation and its interests as part of a Joint Force comprised of all military Services.

The Army's overall transformation strategy is focused on achieving the objective of a campaign-quality force with joint and expeditionary capabilities to provide relevant and ready land power to the Joint Force—today in the midst of the ongoing war, and tomorrow in the face of evolving challenges. The means employed are comprehensive in nature and involve changes in the culture, processes and capabilities of the Army. Cultural change depends on innovative Soldiers and leaders, all of whom are imbued with Army values and a Warrior Ethos that is committed to mission success and is unwilling to accept defeat. Changes in processes involve a more inherently joint perspective that builds on joint requirements and operating concepts, and develops capabilities needed by the Joint Force today and projected for tomorrow. Ultimately, the changes in the development of operational capabilities that build on joint independencies will be the measure of true success. To accomplish all of these components of transformation, the Army must have a sound plan, fully synchronized efforts and the resources necessary to support efforts over time.

The Army has made considerable progress in its transformation efforts and has established momentum on a path to a Future Force possessing new and improved capabilities. Significant investments have been made to explore and develop revolutionary capabilities to provide our Soldiers and units. Some new capabilities have already been fielded to units in the Current Force, including those capabilities resident in the new SBCTs that are being formed. Further development of significant capabilities is well underway with the progress made in the evolution of the FCS. Progress is by no means limited to new equipment, and efforts continue across the full range of DOTMLPF to realize new capabilities that will support the emerging Joint Force attributes and concepts needed to implement national and defense strategies. It is the effective integration of all of these areas that will ultimately link Soldiers and leaders into combat-capable units that can fulfill the entire array of missions in the new security environment.

The evolving Army transformation process and framework (Figure 9) is continuous and dynamic and builds on a long history of adaptation and change in the U.S. Army. It encompasses all aspects of the Army, including the Current Force and the ever-evolving Future Force. The security environment within which this process occurs is shaped by external challenges, national strategic and defense guidance and evolving joint concepts. These environmental factors have all been undergoing considerable change in the recent months due to the demands of the ongoing global war on terrorism, including operations in Iraq, and the emerging refinement of JOCs and the system for producing JICs.

By far the most important factor has been the dramatic change in the strategic environment

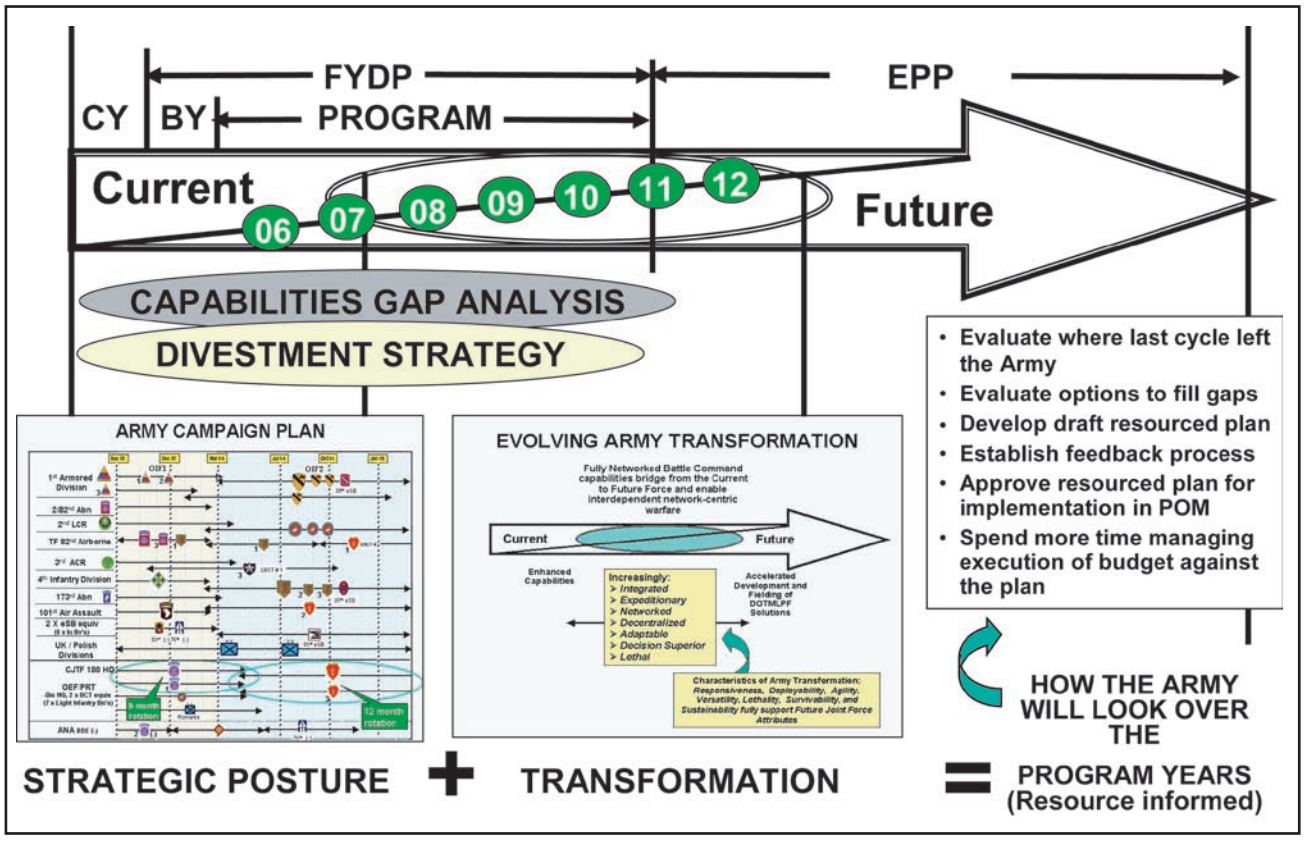

Figure 9. Army Transformation Conceptual Framework

posed by the operational challenges associated with the global war on terrorism. The demands for readiness of the Army to meet current requirements in this ongoing war have taken on an increased and higher priority in light of the risks to the nation and our Soldiers; thus, the Army's transformation plans must be and have been adapted to rebalance the associated strategy and implementing efforts. The examination of immediate focus areas, begun in 2003 and largely completed in 2004, has been an important means in this rebalancing effort. People—primarily our Soldiers, but also their families and the associated civilian and contractor support personnel—still remain as the centerpiece of the Army, current and future. Yet, transformation of an Army at war must continue to develop those capabilities making the Army more ready and relevant and with enhanced joint and expeditionary characteristics to accomplish the range of current missions. The imperatives for transforming the Army while in contact have created a greater need to apply the benefits of emerging technologies at a faster pace to achieve a wider range of capabilities as soon as possible. Simultaneously, within this context adequate resources must still be devoted to developing capabilities to maintain a military advantage against future threats.

The global war on terrorism also provides an immediate window of opportunity for the Army to transform organizationally, materially and culturally. As units return from overseas deployments, they must take time to rest and regenerate their combat capabilities—a period we call reset. With the support of Congress, the Army is using this reset period to reorganize to more effective, modular formations. This enables the Army to transform organizations for future operations instead of merely resetting them. This process ensures that the Army meets its two most pressing missions: winning the current war and transforming for the future.

Current and Future Readiness and Capabilities

The Army frames its transformation through the interaction of evolving current and future readiness and associated capabilities. Today's Army—the Current Force—is the force that is available to function as part of the Joint Force in sustaining global commitments now, particularly in the global war on terrorism. The ability of this Current Force is integral to the Army's fundamental obligation to the nation, and it must be preserved. The Future Force is the operational force that the Army continuously seeks to become, and it will be one that maintains capabilities that dominate land operations in any future conflict or mission as a member of Joint Force. These two forces are closely related, and the readiness and development of each has a direct impact on the other. The readiness of today's Army provides the opportunity to develop a Future Force, and it serves to inform progress through its current operational experience and experimentation. Development of the Future Force, on the other hand, can serve to accelerate application of capabilities that can also enhance the Current Force. Thus, there is a dynamic relationship between these forces that requires careful attention and balancing of efforts and risks to ensure the best and most efficient return from limited resources. Moreover, sustaining and enhancing capabilities while engaged in a war poses a formidable challenge in this balancing process, with the demands of ongoing operations and commitments directly affecting the scope and pace of focused change. The Army addresses this balancing requirement through a continual and flexible reassessment of its plans and programs to ensure that current

requirements are met and future opportunities are pursued.

Today's operational Army—the Current Force—remains the dominant land force in the world. We can make this force even better—a strategically responsive, joint interdependent, precision maneuver force that embodies the Army's concept of the Future Force. Previously, we put off modernizing the capabilities of the Current Force to pay for programs meant for the Future Force. War changes this paradigm. Our frontline Soldiers deserve the most promising capabilities today for better combat effectiveness and protection.

Balancing Current and Future Force transformation requires careful determination about when and how we introduce change into the force. Too much, and we destabilize our formations. Too little, and we deny our Soldiers the most promising capabilities. To manage this process, the Army has developed a comprehensive strategy that accelerates critical capabilities to our fighting forces while continuing to build a campaign-quality Future Force with joint and expeditionary capabilities.

Current Force

Restoring Readiness

Under the overarching program, "setting the force" or "reset," the Army returns units to prehostility readiness levels while providing resources to win the fight, transform, modernize and recapitalize. Specifically, setting the force executes Army activities that return all deployed equipment to fully operational standards, upgrade capabilities implementing Operation Iraqi Freedom and Operation Enduring Freedom lessons learned, reorganize to modular designs in accordance with the Army Campaign Plan, replace obsolete equipment in prepositioned stocks, and reconfigure those stocks to be more strategically relevant and responsive. Congressional support in the form of supplemental appropriations ensures that returning Army formations are transformed in an effective and structured manner to support future operations.

As units begin to redeploy from operational theaters, the Army will continue to set the force to meet future requirements. The goal is for all returning active duty units to achieve a sufficient level of combat readiness, equipment and training, within six months of their arrival at home station. RC units will take longer to achieve their desired level of readiness, and the goal for them is to re-establish readiness within one year. These reconstitution efforts—involving people, equipment and training—will culminate with a certification exercise to ensure the ability to meet combatant commanders' near-term requirements.

Campaign-Quality Army with Joint and Expeditionary Capabilities

Our continuing missions demonstrate the Army's unique durability, versatility and ability to control land, people and resources. The Army maintains a nonnegotiable contract to fight and win this nation's wars. An essential component of this contract is the Army's ability to sustain operations and establish suitable conditions necessary to achieve favorable resolution of conflicts. This requires the Army to sustain and adapt its operations. This is the Army's preeminent challenge today. The Army must reconcile expeditionary agility and responsiveness with staying power, durability and adaptability to achieve victory.

The Army must also remain aware that Army forces are integral components of the Joint Force. Each Service excels at employing

a wide variety of capabilities within specific domains—land, sea, air, space and cyber—to create overwhelming dilemmas for our enemies. Current and future challenges in the operational environment demand unprecedented levels of joint interdependence. This interdependence is a purposeful reliance by the Army on its sister Services to maximize complementary and reinforcing effects while minimizing individual Service vulnerabilities.

The prerequisites of this common commitment to interdependence are broad understanding of the strengths and limitations of each Service's capabilities, clear agreement about how those capabilities will be integrated during operational employment, and the absolute mutual confidence that capabilities will be employed as intended. The Army is implementing close collaboration with other Services and joint organizations as it develops doctrine and capabilities that foster joint interdependence. Furthermore, the Army is building joint-capable organizations at lower organizational levels to make joint interdependence a reality.

Reorganizing to a Modular Force

A central component of the Army's efforts to meet the demanding requirements of current operations and anticipated future missions is the major initiative that began in February 2004 for restructuring Army units into modular designs. This bold and comprehensive initiative is intended to provide Army units that are more relevant to the combatant commanders in today's environment and possess greater versatility in fulfilling the demands of frequent deployments, a wide range of missions, and true joint interdependency. This transformation into modular units is essential to effective support in the ongoing war on terrorism, since it will result in a greater number of Army units that are better organized to operate with increased flexibility and self-sustainment for a wider range of missions.

The approval in 2004 of a 30,000 temporary increase in the Army's end strength enabled the beginning of the modular conversion of AC combat units, with four divisions scheduled for completion by 2005. The initial goal is to add 10 additional BCTs by the end of FY07, with the option for an additional five pending a review and decision in FY06. This would result in a potential increase to as many as 48 BCTs. Besides converting AC forces, the plan is to begin converting ARNG units during FY05, with the end goal of converting all 34 BCTs by FY10. These modularized BCTs will be organized into two major types: maneuver (heavy and infantry) and support (aviation, maneuver enhancement, reconnaissance and surveillance, fires, and sustainment), all of which will be better prepared to provide improved capabilities as well as reduce the stress on the force in meeting operational demands.

A campaign-quality Army with joint and expeditionary capabilities requires versatile forces that can routinely mount smaller, shorter duration operations—without penalty to the Army's capacity for larger, more protracted, campaigns. To meet this challenge, the Army is converting from a division-centric force to a brigade-centric force (Figure 10). The intent is to create more flexible and agile forces that are as capable as existing formations. Further, modular forces with common organizational designs will allow the joint force commander to tailor his requests for Army forces more easily—similar to ordering off a menu.

This modular conversion effort (Figure 11) is the greatest restructuring of our active and reserve forces since World War II. By the end of 2005, the Army's AC will convert nearly half

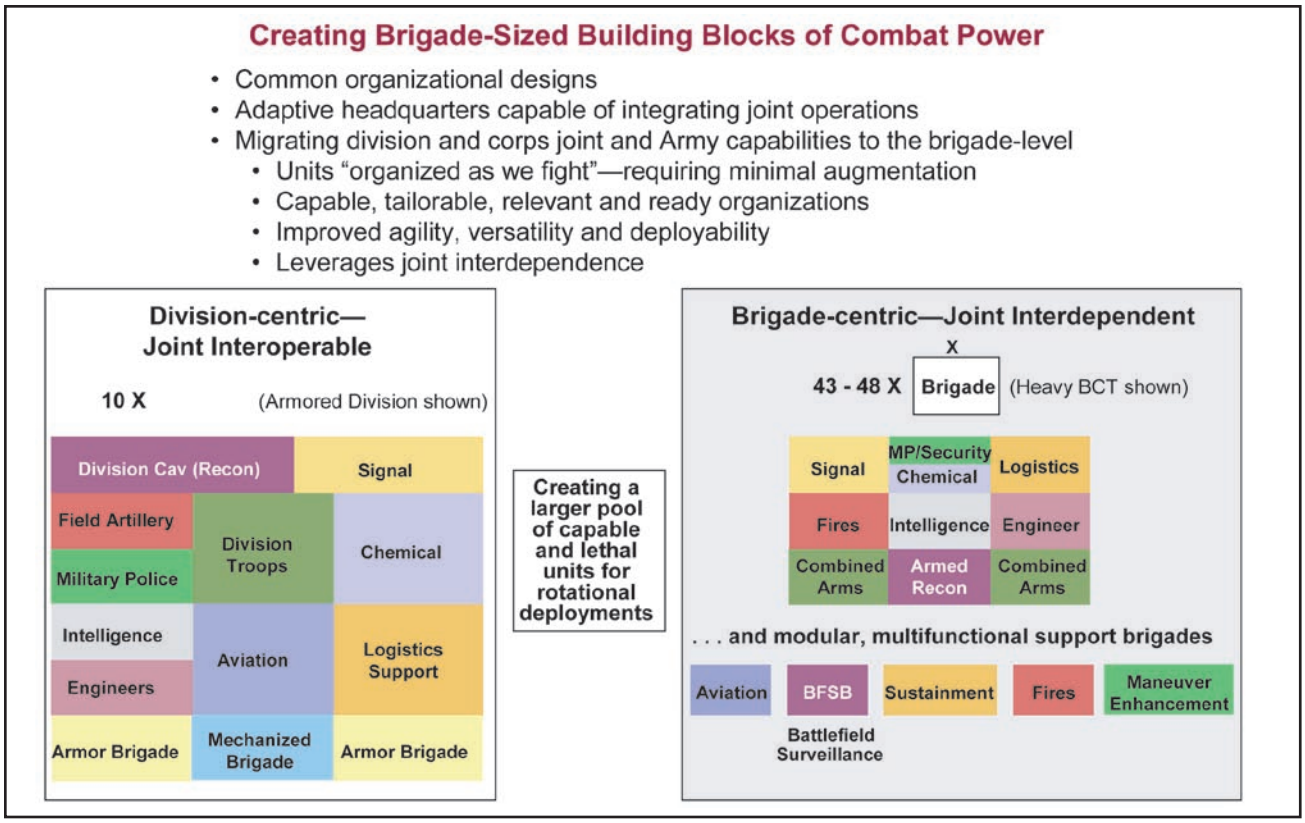

Figure 10. From Division- to Brigade-Based Forces

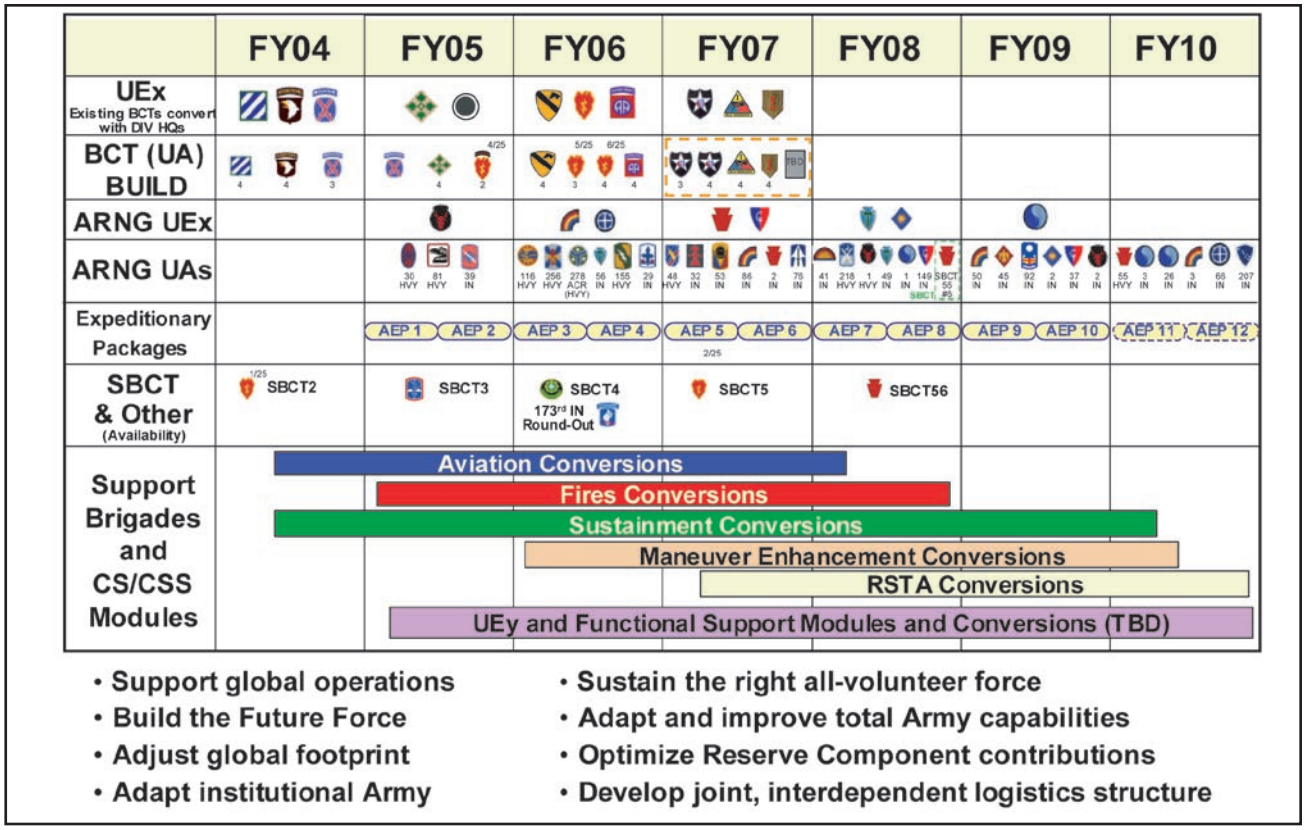

Figure 11. Implementing the Modular Force

of its warfighting headquarters and almost one-third of its maneuver brigades to the more capable designs. By the end of 2005, we will have created six additional brigades, improving the Army's "bench strength" to sustain operations for as long as required. Brigade-level headquarters for our support forces will also begin to modularly convert later this year. The Army will organize support brigades and reinforcing support modules that will be able to plug into or out of any headquarters—Army, joint or multinational.

Standardized battle command capabilities operating within robust networks will enable this change. Further, these capabilities will improve our joint interdependency and situational awareness across the force. When coupled with improved intelligence and target acquisition systems being fielding, the Army will improve its ability to fight for and maintain information superiority with faster speeds of command, enhanced self-synchronization between units, and dramatically increased combat effectiveness.

As for the specific timing of these modular conversions, the Army believes that the ideal time will be in conjunction with other recovery efforts for units returning from operational deployments and prior to any subsequent missions. The overall modular force initiative will generate procurement and modernization costs, and it will impact facilities and stationing as the unit activations and conversions are executed.

Modular conversion is discussed in greater detail under the heading of "New Structures" in Annex B, Organizations.

Balancing Active and Reserve Component Force Structure

As the Army creates modular capabilities, it is also restructuring for a more effective mix between AC and RC forces. This year, the Army reaches its midpoint in a restructuring effort affecting over 100,000 personnel and over 85,000 spaces of force structure. This restructuring effort enhances the Army's ability to provide required land power capabilities to the Joint Force. It also rectifies imbalances within the force while increasing AC capabilities available to support the first 30 days of an operation.

Despite these changes, the Army will remain stressed to meet anticipated requirements. The President alleviated much of this stress by providing us with a temporary 30,000-person increase in our operating strength to provide the Army sufficient headroom to accelerate transformation and fight the war. To retain these increased capabilities, the Army is implementing programs such as military-to-civilian conversions, reposturing of forces overseas, and additional reductions in trainee, transient, holdee and student accounts.

Stabilization

Over the past year, the Army has begun implementing its improved manning system that enhances unit readiness by increasing stability and predictability for commanders, Soldiers and their families. The Army also created a personnel stabilization program for the AC that complements a new rotation-based system of global force management. This stabilization initiative consists of two parts—the first increases stability for individual Soldiers and their families by keeping Soldiers in their assignments longer; the second component, Unit Focused Stability, synchronizes Soldiers' assignments to their units' operational cycles, providing more capable, deployable and prepared formations.

Army Force Generation

The new strategic context of continuous operations renders obsolete the old Army

readiness paradigm of "all ready, all the time." Continuous, full-spectrum expeditionary operations are the new reality. The Army is transforming its concepts, capabilities and organizations to meet the demands of this new strategic context. Nested within Army transformation, the Army is developing an operational cycle (Figure 12) to optimize its process of force generation to provide a continuous supply of relevant and ready land power to joint force commanders and civil authorities at home.

The operational cycle pools AC and RC modular units into force packages to meet joint requirements. Those force packages are then assigned deployment windows based on cyclical phases—reset/train, ready, available—within the operational cycle to provide a continuous supply of ready forces. While preserving the capability to surge forces for major combat operations, planning goals are one deployment in three years for AC forces and one deployment in six years for RC forces. Rather than the previous process of "tiered readiness," priority of resources will be assigned to AC and RC forces based on their availability dates.

Like pieces of a puzzle, the operational cycle is interconnected with conversion to the modular force, force restructuring and unit stabilization. In fact, the operational cycle is a necessary complement to make those initiatives work. Modular Army organizations are pooled into force packages that make unit rotation easier to plan and execute. Restructuring the force optimizes the right capabilities in the right force packages to support continuous operations and improve strategic responsiveness. Units stabilize at the start of their operational cycles to keep

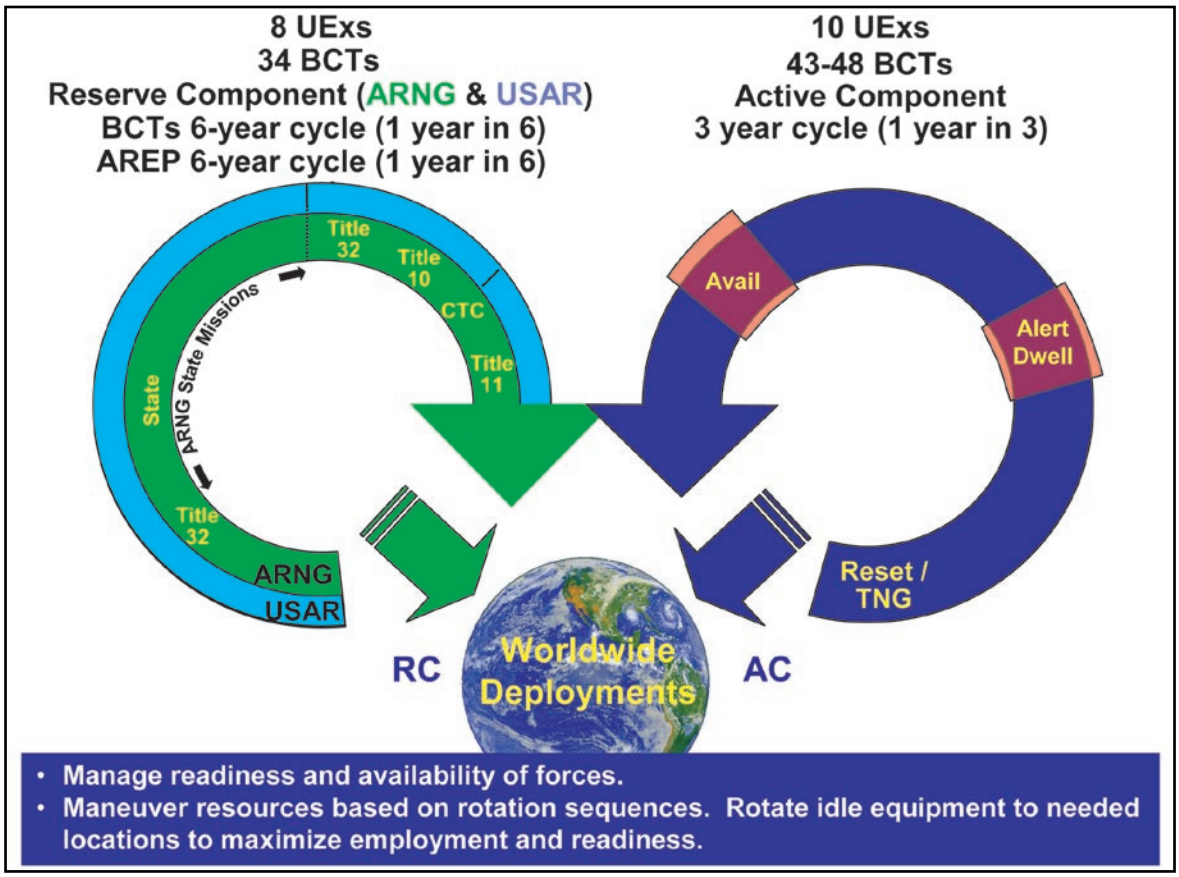

Figure 12. Army Force Generation

cohesive teams together through operational deployments. Implementing this concept will relieve stress on the force and provide time to train, predictable deployment schedules, and the continuous supply of ready land power to combatant commanders and civil authorities.

Global Force Posture

To improve its strategic responsiveness, the Army is improving its ability to rapidly deploy to austere fighting environments, fight on arrival throughout the battlespace, and sustain operations until victorious. The Army Reserve is being reorganized into modular forces that are aligned into expeditionary packages. These expeditionary packages are manned and equipped to equivalent levels as their AC counterparts in synchronization with their operational cycles. These packages can also be tailored to provide specific operational capabilities.

Parallel with the Base Realignment and Closure process, the Army is identifying critical joint power-projection installations to support the mobilization, demobilization and rapid deployment of Army forces. Also, the Army is enhancing force reception and deployed logistics capabilities to quickly respond to unforeseen contingencies.

To complete the transition to an expeditionary force, the Army will reposition ground forces to meet emerging challenges and adjust permanent overseas presence to a unit-rotation model that is synchronized with Army force generation initiatives. In Europe, both heavy divisions will return to the United States—being replaced by an airborne brigade in Italy, a Stryker brigade in Germany, and possible rotational presence within Eastern Europe. The Army will maintain a rotational presence in the Middle East while eliminating many of our permanent bases. In the Pacific, the Army will maintain smaller forward-based forces, but will station more agile and expeditionary forces at power projection bases that can rapidly respond to any contingencies. Finally, the Army will leverage its improved readiness to increase its rotational training presence among our security partners.

Accelerating Change

Over the past year, the Army has significantly accelerated the tempo of transformation. The Army continues to adapt the resource processes so they become more flexible, dynamic, transparent and responsive. Soldiers remain the centerpiece of our formations. Their immediate demands are urgent, and fielding capabilities in the near term may outweigh protection of the program of record.

The Army is changing almost every aspect of its resource process. The Army generates requirements by looking at them from a joint context to ensure these requirements are congruent with DOD transformation efforts. We are also placing more emphasis on the needs of engaged commanders—fulfilling immediate, unprogrammed requirements while balancing resources to ensure long-term viability of the force. Finally, the Army is dramatically accelerating acquisition processes to meet the needs of joint force commanders today.

Through the RFI, the Army is purchasing and fielding state-of-the-art equipment at an unprecedented pace. Examples are 100 percent fielding of improved body armor to all Soldiers operating in Afghanistan and Iraq, advanced thermal sights and personal equipment, and a variety of state-of-the-art mission essential items. Congressional support for regular budget and supplemental spending requests enables the Army to put this improved equipment in the hands of Soldiers.

With this support, the Army also continues to field innovative technology solutions directly to operational commanders through the Rapid Equipping Force (REF). Such innovative solutions include a variety of robotic systems and other technologies used in high-risk searches, technologies to counter IEDs, and extensive improvements in the armor protection of armored and light-skinned vehicles. Typically, the REF cycle is measured in weeks, sometimes days, from field commanders articulating a requirement to the Army providing a solution.

The accelerated fielding of selected capabilities through a spiral process will also include continued development and fielding of new capabilities associated with mature systems in the acquisition process. This includes fielding of additional SBCTs; the RFI to equip Soldiers with increased lethality, force protection, survivability, and squad communications; fielding of systems to retain and improve situational dominance through comprehensive and joint-interoperable command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) architectures—Warfighter Information Network (WIN-T), the Joint Tactical Radio System (JTRS), Distributed Common Ground System-Army (DCGS-A), and Aerial Common Sensor (ACS); fielding of the Surface Launched Advanced Medium-Range Air-to-Air Missile (SLAMRAAM) and Patriot/Medium Extended Air Defense System (MEADS) to augment cruise missile defense; fielding digital battle command capabilities through systems such as the Force XXI Battle Command, Brigade and Below (FBCB2); accelerating crew protection and Aircraft Survivability Equipment (ASE) initiatives and adding an additional 800 helicopters as well as accelerating UAVs.

Aviation Transformation

The Army is also transforming its aviation forces to become a modular, capabilities based maneuver arm that is optimized to operate within the context of joint operations. The Army aviation transformation strategy corrects a previous imbalance between capability requirements and modernization plans. This transformation is not without cost. To fund and accelerate comprehensive transformation of the existing aviation fleet, the Army cancelled the Comanche program. As a result of Comanche cancellation, new aircraft programs were initiated that will build over 800 aircraft—the Armed Reconnaissance Helicopter, the Light Utility Helicopter, the Future Cargo Aircraft and additional Black Hawks and Chinooks.

Intelligence Transformation

Finally, ongoing Army intelligence transformation is enabling the “fight for knowledge” for use by Current Force units. The Army continues significant institutional and cultural changes in four key areas: implementing the concept “every Soldier is a sensor,” instituting a network-centric enterprise approach to analysis, redesigning and transforming intelligence organizations, and improving the professional development of intelligence Soldiers. The Army’s ultimate goal is to generate the appropriate mix of intelligence capabilities that support full-spectrum operational requirements over extended periods of time.

Over the last 12 months, Army intelligence was challenged to meet all of its wartime requirements while adapting “the way we fight” intelligence as part of an interdependent, joint enterprise. One growth area is the Army’s human intelligence (HUMINT) capabilities to better meet the needs of our tactical commanders in Iraq and Afghanistan. Second,

using spiral development, the Army accelerated fielding of interim DCGS-A capabilities, enabling better analytical capabilities across the entire intelligence community. Third, the Army implemented a network-centric "tactical overwatch" capability that provides dedicated, focused intelligence support to deployed tactical forces from fixed knowledge centers, providing precise, tailored information verses megabits of data. These new capabilities are significantly improving intelligence through the synchronization of advanced collaborative analysis to support combat operations in a full -spectrum environment.

Future Force

Enhanced Capabilities for Tomorrow

The primary goal of Army transformation is the development of the Future Force, which will be a strategically responsive, precision maneuver force that will achieve dominance across the full range of military land operations in any future conflict as an integral part of a truly Joint Force. Our Future Force is being designed to expand options available to the Joint Force in a wide array of possible scenarios and amidst the frequently changing requirements of the emerging operating environment. The Future Force will be balanced across a mix of light, medium and heavy formations and optimized for strategic versatility—able to perform seamless transitions from peacetime readiness missions to small-scale contingencies to major theater warfare.

The foundation of our Future Force is a maneuver Unit of Action (UA) equipped with the FCS. The FCS concept itself represents a paradigm shift in land combat operations. It is a system of systems whose capabilities exceed the sum of its parts. The FCS has

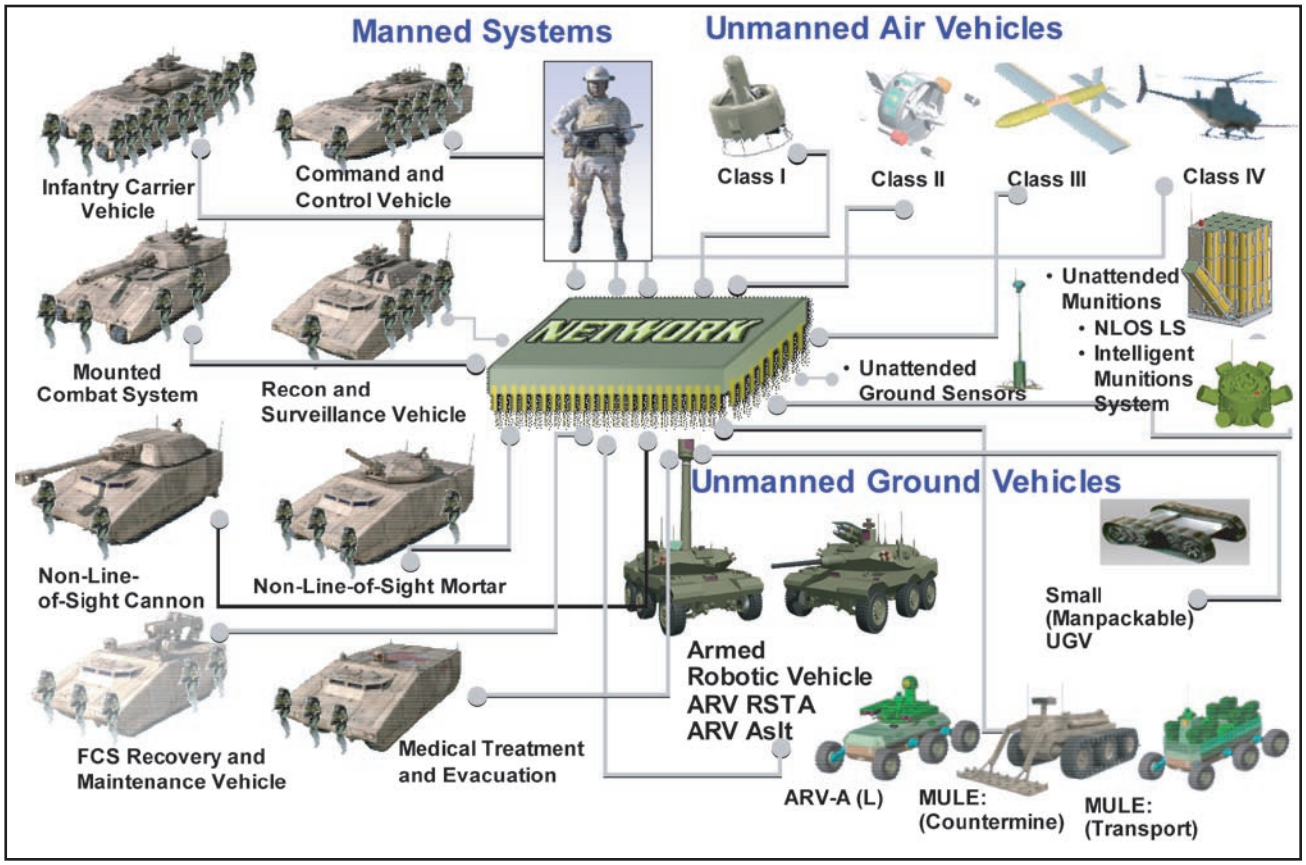

Figure 13. Future Combat Systems

been designed so that each part of the system is networked within the whole to achieve an unprecedented synergy. FCS comprises 18 manned and unmanned platforms that are centered on the Soldier and linked together with a fully integrated network, providing interoperability with joint and coalition forces. FCS will provide our Soldiers greatly enhanced situational awareness, enabling them to see first, understand first, act first and finish decisively.

Although optimized for offensive operations, the FCS-equipped UA will be capable of executing stability and support operations. It will employ a revolutionary networked, battle command architecture to exert command and control over its subordinate units, which are task organized for required missions. The network will facilitate the integration of higher headquarters and joint capabilities, maximizing the effectiveness of those assets on the battlefield.

Acceleration of Capabilities

The FCS-equipped force represents a capability crucial to the Army's Future Force and the accomplishment of the DOD transformation goals. In July 2004, the Army revised the FCS program strategy in a way that will bring selected crucial capabilities to operational forces faster while maintaining the momentum to develop and field an FCS-equipped UA in 2014. The FCS program is structured now to deliver a number of the most significant technologies to a greater portion of the force earlier than previously anticipated. These technologies include those needed to implement improved network capabilities, to

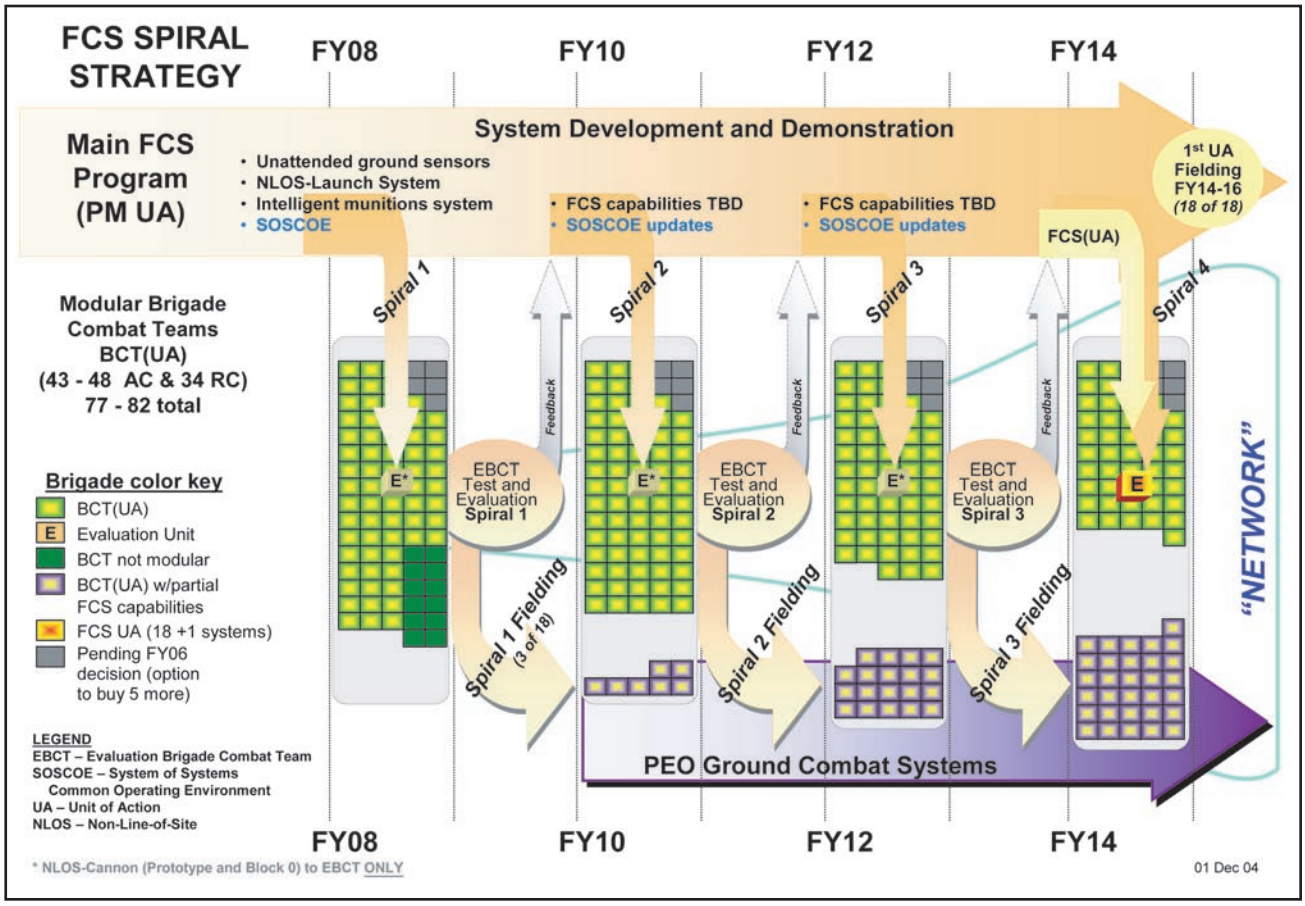

Figure 14. Accelerating Capabilities

enhance battle command and to provide Soldiers with a variety of manned and unmanned ground and air platforms that will increase their survivability and operational reach. This strategy reflects the Army's commitment to reduce risk to the frontline Soldier and demonstrates the Army's desire to adjust the program of record to pressing requirements of the Joint Force. Under the revised program, the first FCS capabilities will emerge in 2008. Also in 2008, the Army will designate an FCS evaluation unit to guide development of the FCS-equipped force.

The adjustments to the FCS program will maintain the focus on FCS-equipped UA development while substantially reducing program risk. The new strategy will give development priority to the network, unattended munitions, unmanned systems and manned ground vehicles (MGVS). The Non-Line-of-Sight Cannon (NLOS-C) will lead MGV development and deliver prototype systems in 2008, with fielding beginning in 2010. Five previously deferred FCS core systems will also be funded and fielded along with the first FCS-equipped UA, allowing UA fielding of the complete 18+1+1 core systems in 2014. The initial spiral-out package in 2008 will include development of prototypes and limited production hardware to be used in an Evaluation Brigade Combat Team (E-BCT) for testing and experimentation. This unit will serve as the evaluation unit for all FCS systems and will serve as the means to validate all products within each set of capabilities spiraled out to operational units. This overall iterative development, integration and verification process will demonstrate readiness to progress through the four spiral-out phases of capabilities to the Current Force and ultimately the fielding of the FCS-equipped UA.

By restructuring the FCS program, the Army will garner resources to buy new equipment, including existing items such as add-on armor kits for HMMWVs and individual body armor as well as new transformational systems that can be employed by Current Force units as well as complement the FCS. The end result will be the spiraling of newly developed technology into the hands of Soldiers at a much faster rate than previously envisioned.

Army Modernization

Modernization Strategy—Balanced Modernization

Modernization is a continuous process of integrating new DOTMLPF to develop and field capabilities for the Army to provide to the Joint Force in executing the NSS and NDS and all assigned missions. Modernization activities are facilitated and optimized by sound modernization and investment strategies that are specifically designed to implement the Army's transformation process. The modernization and investment strategies also establish common terms of reference for all modernization activities and, very importantly, provide clear priorities and focus for the allocation of resources for equipment expenditures. The overall Army modernization strategy remains focused on providing those capabilities necessary for the Army forces deployed and at war today—the Current Force—that is the foundation of the Army's strategic commitment to the nation, while simultaneously supporting a transformation process to ensure that those capabilities essential for the future are being developed. The investment strategy in support of modernization describes the process used in deciding how to allocate monies across competing priorities in order to obtain the best capability for each dollar spent.

In support of the overall goal of maintaining and improving the readiness of today's Army while also transforming to a more responsive and capable force for the future, the Army has developed a coordinated and comprehensive strategy of integrating all its efforts and programs across the DOTMLPF toward the goal of equipping and reorganizing forces. This strategy can be described best as one of "balanced modernization," which seeks to develop and field combat-capable units through an appropriate mix of significant organizational restructuring into more modular units, insertion of new capabilities where and when feasible, selective procurement and fielding of new equipment (modernization); and restoring and preserving readiness of current equipment (reset), including the rebuilding and upgrading of key existing equipment through recapitalization. Overall, Army modernization efforts are placed into two fundamental categories:

- **Modernization**—the development and fielding of improved operational capabilities through a combination of organizational restructuring into modular formations, the insertion of new technologies into existing systems and units, and/or the procurement of new systems with improved capabilities.
- **Reset**—the restoration and/or preservation of the combat readiness of units, returning from or preparing for operational deployments, through the repair or replacement of end items, parts, assemblies and subassemblies that are worn or broken; essential retraining and application of lessons learned; and readjustment of prepositioned stocks of equipment and munitions. Incorporates recapitalization, which is the rebuild and selected upgrade of currently fielded systems.

The Modernization strategy also consists of the following two components, which help define a clearer focus for its implementation:

- Maintaining and enhancing capabilities of the Current Force to meet all strategic and operational requirements. This includes restoring and improving the readiness of units returning from or preparing for operations; the major initiative underway to restructure units into more responsive and capable modular formations; the continued fielding of immediate operational capabilities by organizing and equipping six brigade-sized units outfitted with a family of internetted Stryker combat vehicles and other state-of-the-art, off-the-shelf technologies; and the accelerated effort to insert into existing systems and units, where feasible, newly developed capabilities derived from emerging technologies.

- S&T efforts to enable timely fielding of the Future Force (in particular, FCS, which will be the foundation of that force) and to identify promising technologies and selected new, mature capabilities that can be fielded to Current Force units through the process of spiral development and insertions.

The specific details of respective plans and programs and the balance within and between these two components as reflected in PB06 is the result of a dynamic and ongoing reassessment of the needs of the nation and the opportunities and resources available. Clearly, the operational environment of a nation and

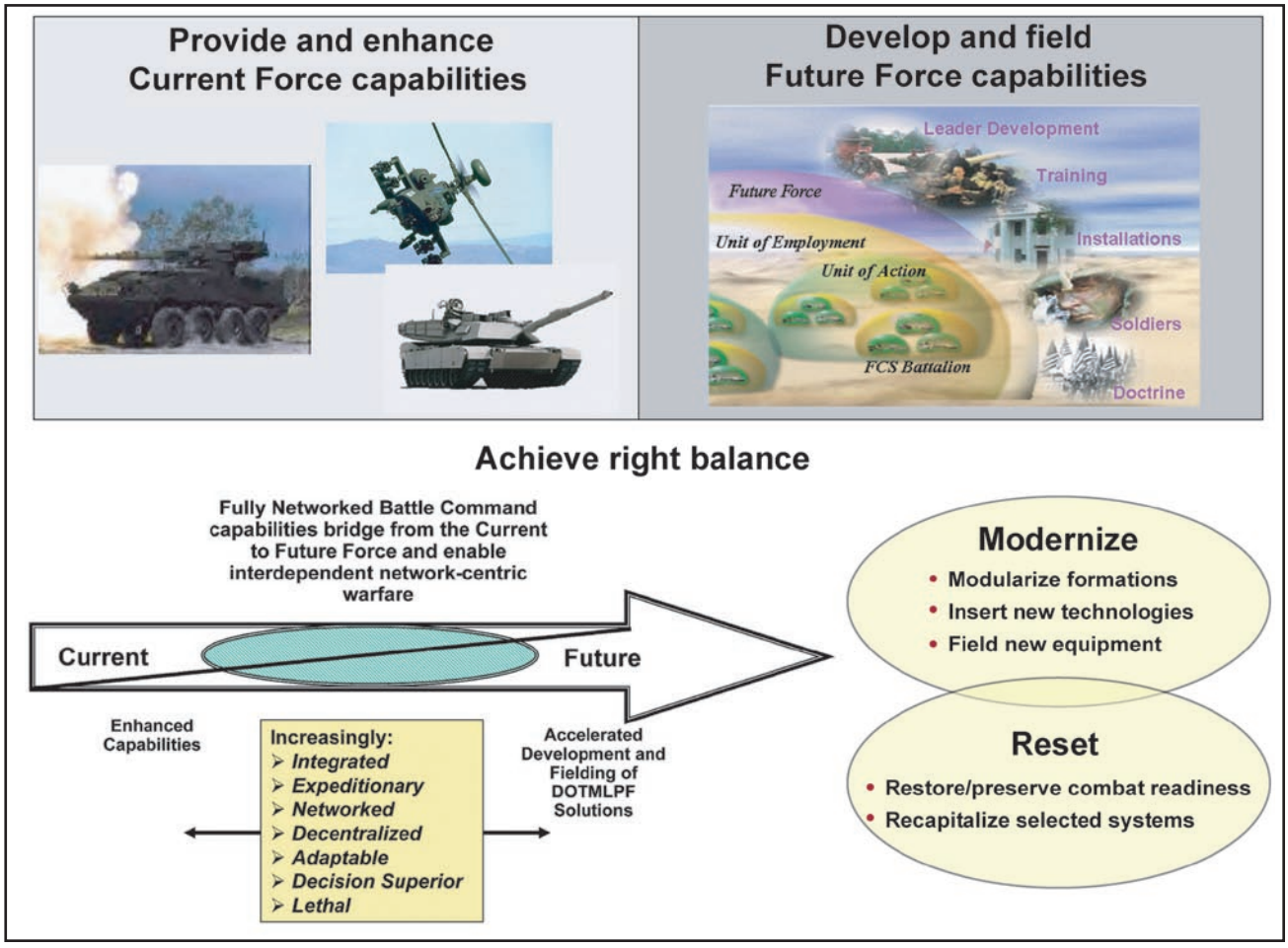

Figure 15. Modernization Strategy

Army at war is of overriding importance in this assessment and has had a direct impact on the changes in the overall modernization strategy, which were foreshadowed by Army initiatives in 2004. Many of these initiatives, as well as other elements contained within PB06, developed as the result of an intensive process of self-examination directed by the Army leadership in an array of focus areas. A number of major changes, namely the move to modular formations, got underway in the first half of 2004, while other changes are being implemented within this budget cycle. The key point is that the Army has adapted its plans and programs within the context of a flexible and overarching strategy of balanced modernization.

Integrating Across the DOTMLPF

The Army's transformation process includes a comprehensive examination of the interrelationships among doctrine, organizations, training, materiel, leadership and education, personnel, and facilities. As the Army fields new capabilities to the Current Force and evolves into the Future Force, it must optimize investments by ensuring the proper synchronization between DOTMLPF requirements and DOTMLPF solutions.

Transforming the Army has placed new demands on how leaders and Soldiers are managed throughout the force. With over one million soldiers geographically dispersed across seven continents, the Army's personnel community is developing new tools that will ensure the right Soldiers with the right skill sets are assigned to the proper units in a timely manner to ensure combat readiness. Enhanced personnel databases, leveraging web-based technologies, and implementing best business practices are examples of how the Army intends to improve the management of its military and civilian personnel. The increased operational demands have also required a re-examination of many long-standing personnel and basing practices, with the result that the Army is transitioning to an improved manning system designed to improve unit readiness by increasing stability and predictability for unit commanders, Soldiers and their families. This will place greater emphasis on building and sustaining cohesive, deployable combat-ready units.

Modernizing the Army with new systems and equipment is a critical undertaking that consumes vital and limited resources. Only by ensuring that equipment fielding is integrated and synchronized with total requirements can the Army be assured that resources are being used in a wise and cost-effective manner. The annexes to the *2005 Army Modernization Plan* provide a comprehensive and succinct review of the progress being made in modernizing across the DOTMLPF as the Army continuously transforms itself from the Current to the Future Force.

Modernization Priorities

To achieve readiness of the force over time, the Army prioritizes its investment of limited resources in accordance with DOD guidance reflected in the Strategic Planning Guidance and Joint Programming Guidance, and further defined in *The Army Plan*, and in response to current operational requirements. There are two major categories of investments for the Army—equipping and restructuring the Current Force, and equipping and structuring the Future Force. Lately, there has been a significant shift in prioritization and emphasis as a result of the demands of the global war on terrorism. The first priority for the Army is to successfully pursue this war, which includes the requirement to maintain and improve the readiness of the Current Force. To do this, the Army is focusing on equipping Soldiers,

resetting units returning from and preparing for deployments, and restructuring into modular units that will be available to support operational requirements in the ongoing war. The next and related priority is to strengthen the Army's contributions to joint and combined warfighting capabilities by fielding new systems, inserting new technologies and capabilities into existing systems, fielding the capabilities of the SBCTs, and modernizing into future formations. Army SOF is another force modernization priority because of their unique capabilities and contributions to the Joint Force in the ongoing global war on terrorism. Finally, there is an ongoing focus on transforming the Army into a Future Force with even greater and more relevant capabilities. This transformation is centered on the fielding of FCS and associated systems, though it also includes the corollary effort to identify and spiral forward emerging technologies whenever feasible.

Modernization Enablers

There is an important process that is integral to the execution of the Army's modernization strategy—Unit Set Fielding (USF). In addition to this process, the Army uses an important acquisition policy and process called software blocking to implement USF by integrating and synchronizing system software developments and upgrades. This modernization of the Army's software processes and infrastructure is vital to the success of USF and net-centric warfare. The Army also makes extensive use of modeling and simulation as well as of studies and analyses to help establish priorities and make informed choices throughout the transformation process. Collectively, all of these tools are integral to the success of transformation and an effective and efficient modernization strategy. Finally, an integral enabler as well as foundation of the Army's efforts is the preservation and modernization of the industrial base.

Unit Set Fielding

Under traditional fielding processes, units were modernized by receiving multiple and separate issuances of individual systems throughout the year. This modernization approach, however, rarely provided the unit with a complete and fully integrated operational capability. It also proved to be disruptive to unit training and readiness. The single system/single unit focus of traditional modernization does not support the scope of facility, installation, training complex, and training center modernization required for fielding integrated new capabilities to units.

A more disciplined and structured modernization approach was needed. The Army established the USF process in 2001. This process expanded on the single system modernization policies and procedures by focusing on building unit combat capability packages of equipment. USF integrates and synchronizes resourcing, planning, preparation and fielding of the package to a designated unit during a single modernization window. The designated unit is usually a BCT.

Optimum success in fielding the capability package is gained by integration of all DOTMLPF activities required to develop, field and support the individual systems that comprise unit sets. This holistic modernization approach is crucial to transforming the Army.

USF is currently being executed to modernize the 172nd Infantry Brigade (SBCT 3) and will be used to field the remaining SBCTs as well as other selected light and heavy forces. The first FCS-equipped UA will use the USF process to field system-of-systems capabilities. USF will, likewise, be an integral component throughout the overall modular force initiative, and will also help implement the spiral application of new technologies into

existing units prior to the fielding of the FCS-equipped UA.

Software Blocking

Software blocking (SWB) is an acquisition policy and disciplined process through which the Army achieves and sustains an integrated system-of-systems (SoS) warfighting capability. *Army Regulation* (AR) *70-1, Army Acquisition Policy*, mandates it. SWB is a critical enabler of USF.

SWB as an acquisition process improvement is consistent with the Clinger-Cohen Act of 1996 and DOD 5000. The framework embodied in the SWB policy synchronizes system software developments and upgrades. It is designed to focus the acquisition process on a disciplined approach for achieving interoperability, commonality and synergistic functionality. In conjunction with USF, SWB is a conduit for executing the Army's transformation.

Under SWB, the Army has made a commitment to divest itself of its traditional systems-centric approach to embrace an SoS capability that supports each element of DOTMLPF. This will allow the Army to make smart decisions based on the impact to warfighting capability vice systems. Under the policy, systems include new/upgraded core battlefield systems, trainers, simulators, test and instrumentation, and simulators needed to achieve an integrated capability across all elements of DOTMLPF. SWB applies to all Army systems except those business systems that do not exchange information with tactical command, control, communications and computers (C4) and intelligence, surveillance and reconnaissance (ISR) systems and weapon systems.

SWB represents a necessary evolution along the path of acquisition reform. SWB lowers the artificial barrier between elements within the acquisition process that inhibit our ability to develop, test, train and sustain a synergistic warfighting capability. Through SWB, the acquisition process focuses on a total warfighting capability rather than individual systems.

SWB is a Future Force process that is being implemented to enhance the Current Force operational capability. This means it will take a few iterations before SWB is fully matured. Thus, SWB provides the paradigm through which existing systems will transition from their stovepipe implementations in support of Army objectives to provide enhanced capabilities to the Joint Force.

Joint Venture 2020 requires the insertion of innovations in information technology. SWB provides the vehicle for tuning the Army's acquisition efforts towards developing the interdependent application necessary to achieve the SoS warfighting capability essential to force application, protection, focused logistics, command and control, and battlespace awareness. SWB ensures that the critical C4 and ISR, weapon systems and SoS network infrastructure are matured in a manner that enhances overall operational warfighting capability while at the same time maximizing the operational effectiveness of individual systems. In a resource-constrained environment, priorities are targeted at maximizing total capability. For SWB, this will require a sustainment of resources from requirements through fielding.

Studies and Analysis

Army transformation must successfully structure, organize and equip the Army for the challenges of the 21st century. This is an

ambitious goal, and it will not be achieved without well-analyzed investments in both financial and intellectual terms. Managing the transformation process to produce an Army effective in joint warfighting will require continuous analysis to develop materiel solutions that offer the warfighter the most capability for the least dollars. Robust analyses and studies support timely and correct decisions; increase the correspondence of requirements for strategic, operational and tactical conditions; expand technology trade space; permit the effective utilization of past modernization investments; and ensure effective system integration within the Army's system-of-systems framework. Army analytical efforts will provide significant assistance in the materiel development and selection process by balancing risk between schedule, performance and affordability. These analytical efforts will also identify any specific modernization and recapitalization initiatives required to sustain Current Force superiority with acceptable risk while the Army focuses resources on enabling the Future Force. The Army's analytical capability ensures we balance cost, technology and warfighting needs in support of the development of an effective modernization program for the Current and Future Forces.

Although the Army uses a variety of analyses and studies to support its decision makers, the tools described below represent the most commonly employed. These include the system-of-systems framework (SSF), warfighting alternative analysis requirements and resources (WA2R2), capabilities needs analysis (CNA), continuous early validation (CEaVa), and value-added analysis (VAA).

The System-of-Systems Framework is an institutionalized process, synchronized

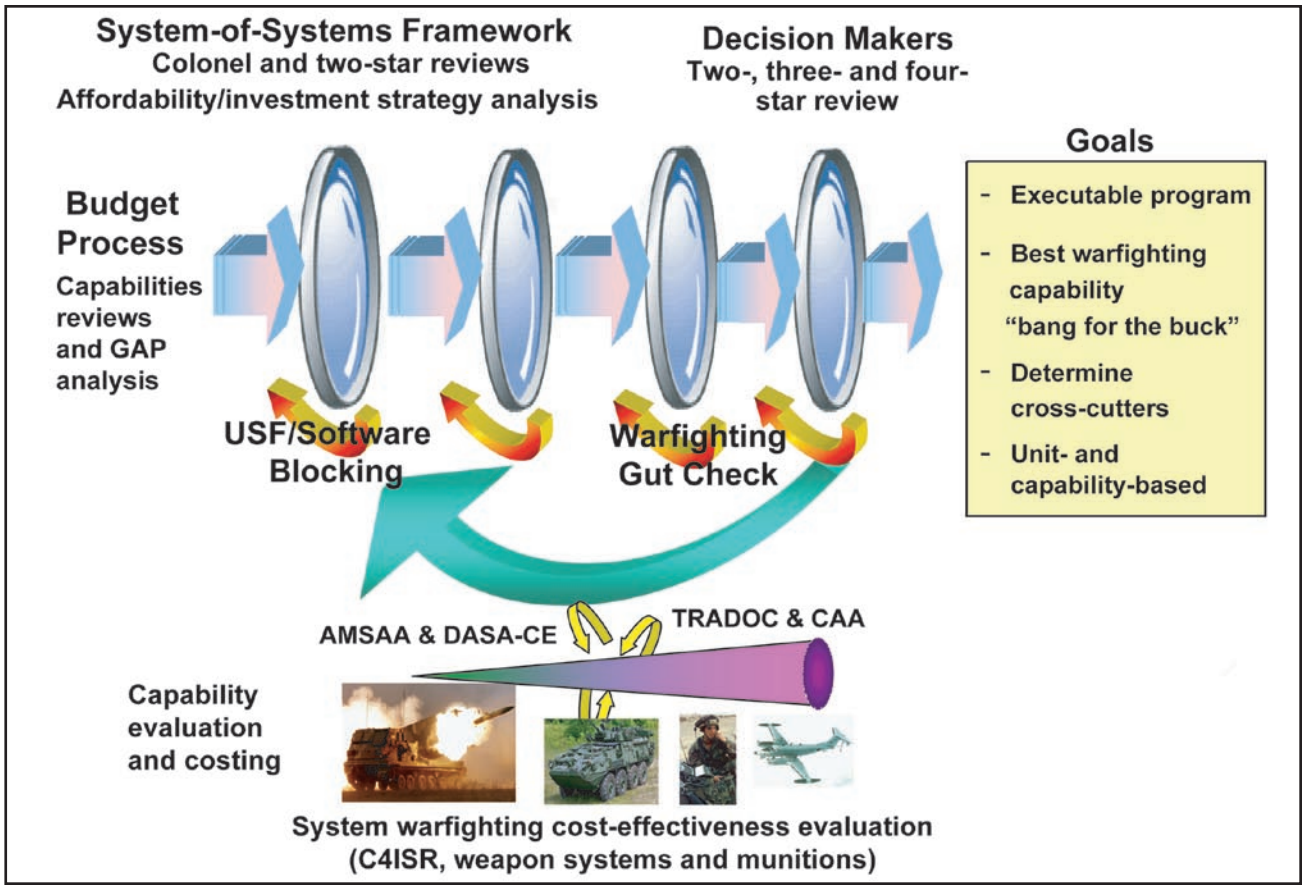

Figure 16. Investment Assessment Process

with the budget planning process, to provide insights to the Army leadership for resource decisions, and to support/refute external studies (Figure 16). The Army conducts analyses and studies to determine the optimum mix of systems that will allow us to build and maintain multifunctional, combat-capable units within an SSF. Analysis allows the Army to balance risk between schedule, performance and affordability within and across joint mission areas (JMA). Objective analysis provides a rigorous, quantitative, holistic approach to system acquisition. The Army uses the results of studies to support the development of systems and to defend Army programs during budget development and defense reviews.

Warfighting Lens Analysis is an analytically based process by which warfighter recommendations on the Army's battlefield capabilities are incorporated into the Army's budget planning process. It prioritizes weapon and training system requirements, and the materiel solutions that best fulfill those requirements, to ensure warfighting overmatch capability within available resources.

Continuous Early Validation is a decision-support system that will aid decision makers and analysts in evaluating acquisition programs. CEaVa gives decision makers timely visibility on the status and issues of a program to permit timely decision. CEaVa will stabilize the problem statement by validating key performance parameters or critical requirements relative to the ever-changing environment. CEaVa makes it clear that the user and developer are solving the right problem. Additionally, it increases the likelihood of producing the correct system on time. CEaVa is the tool, selected by the Deputy Chief of Staff for Programs, G-8, to facilitate the assessment of programs in terms of cost, schedule and technical risk. With CEaVa, the Synchronization Staff Officer will have the ability to track policies, concepts and requirements for an individual system throughout the program life.

Value-Added Analysis provides decision makers an analytical approach for the evaluation and prioritization of competing alternatives to support the development of a balanced and effective Army RDA program. The study purpose is to identify and analyze marginal costs and benefits of weapon systems and develop feasible, affordable modernization investment strategies in support of Army program planning. The objectives are to produce investment strategies for major weapon systems that maximize force effectiveness subject to constraints on budget, force structure, and production capabilities and to develop a quick-reaction analysis tool to address modernization questions during program execution.

Modeling and Simulation

Simulation and Modeling for Acquisition, Requirements and Training (SMART) is the process for effective and efficient application of modeling and simulation (M&S) within Army programs. The Army uses SMART to capitalize on M&S tools and technologies to address the end-to-end system requirements, from concept development through total cost of ownership. SMART is accomplished through the collaborative efforts of the acquisition, advanced concepts and requirements, training and operations communities.

Acquisition. Technologies must be advanced that will enable the embedding of total technology development and materiel acquisition process, from cradle to grave, in a system of networked synthetic environments that can be seamlessly linked with each other and other domains. This includes technological developments, concept formulation and

evaluation, operational test and evaluation, logistics support assessment, cost estimation, performance and cost trade-offs, scheduling, cost and progress monitoring, and program management.

Requirements and Concepts. M&S will help modernize the force faster by providing technology to empower Army leadership to visualize the future, assess the needs of a transforming force, optimize system design while reducing development risks, and train effectively for a wide spectrum of operations.

Advances in M&S technologies will foster the realistic simulation of unit structure, employment and tactics, dynamics, and performance in a combined arms environment with an increased level of detail, fidelity and statistical accuracy specified by analysis and concept definition.

Training. Army M&S support of the Future Force combined arms training must provide technologies that substantially expand the use of simulators and simulations to train the Soldier in a seamless synthetic environment. Providing digital training to the Future Force will also require continued improvement in fidelity of training systems, including maturing of live-virtual-constructive (LVC) integration environments. Actively pursuing embedded training will give the Army both a built-in mission rehearsal capability and a way to maintain perishable skills for deployed warfighters.

Combat readiness is enhanced though training and mission rehearsals using constructive and virtual simulators and simulations. The integration of live and synthetic environment ,provides the foundation for the adaptable Joint National Training Capability (JNTC). Through joint exercises and experimentation, the Army will leverage the JNTC environment to test new concepts, doctrine, tactics and operations.

Battle Command. M&S tools and technologies that provide faster-than-real-time, interactive, predictive, continuous running simulations in support of dynamic automated planning and execution control systems must be advanced.

Simulation-aided mission rehearsal requires the same technologies and databases as mission planning. Technologies are being developed to support implementation of materiel embedded training and mission rehearsal where individual units and their aggregates are fully immersed in synthetic environments with horizontal and vertical synchronization throughout the operational forces.

Geospatial. Investments in data standards, common geospatial terrain, collaborative environments, space representations, test environments, command and control, and urban combat representations are essential. Investments in these areas will enhance Soldier training and combat preparation by providing simulation and training systems integrated directly into operational systems. Geospatial investments also support course-of-action analyses and rapid decision making, and prepare Soldiers to fight in unfamiliar, fast-paced, dynamic environments.

Testing and Evaluation (T&E) of the design and performance of components, subsystems, and systems are an integral part of the materiel acquisition process.

The test community is a vital part of the SMART acquisition process, providing a level of verification, validation and accreditation (VV&A) necessary to ensure the evolving simulations are adequate to support testing. It is recognized that M&S and the mathematics

and science associated with it is not robust enough to completely replace all hardware-based testing for every system.

Payoff. M&S reduces the time and resources required for the acquisition and prototyping, production and logistics, training and readiness of military systems and operations. M&S provides responsive feedback for requirements definition and analysis, design synthesis and system verification. M&S also enables cost analysis, enhances system tests and evaluation, and facilitates cost effective experimentation to gain insights into system capabilities.

Expected payoffs of M&S investments are the development of tools and techniques for rapid force modernization, which will effectively prepare Soldiers and units for combat and will provide technology for a seamless integrated LVC simulation in a JIM environment.

Industrial Base Modernization

A modern industrial base is essential to the overall success of the Army's transformation and modernization efforts. The Army is undergoing the largest and most comprehensive transformation in Army history. It will result in an Army that is more lethal, versatile, agile, survivable, maneuverable and sustainable while incorporating an increasing number of advanced technologies. To provide the required sustainment and operational readiness for the transformed Army, it is necessary to transform the Army industrial base as well.

The Army industrial base of the 21st century will consist of a complementary and synergistic mix of private sector and government capabilities. It will be multipurpose and multi-use, and structured to provide the required capabilities and capacity. These capabilities must be maintained in modern operating condition to ensure quality and enhance productivity, as well as encourage public-private partnerships to include investment opportunities for modernization.

By leveraging the private sector's capabilities to the maximum extent practicable and economical, the Army will focus its resources on those unique manufacturing processes and products required to meet peacetime, emergency, reconstitution and replenishment responsibilities in support of the NSS. Given the Army's national defense mission, its Title 10 responsibilities to support other Services, and the unique characteristics of some of its equipment and the demand for readily available replacements, it is necessary to maintain certain industrial capabilities within the Army. The challenge is to determine what is the most efficient organic mobilization capability and capacity that the Army will require to sustain the warfighter while addressing and implementing the full spectrum of technologies from legacy to new systems.

Today's Army organic industrial base consists of facilities that produce ammunition, store munitions, manufacture components and maintain equipment. The facilities, located throughout the continental United States, consist of government-owned, government operated (GOGO) and government-owned, contractor-operated (GOCO) facilities. The Army owns all of these facilities; however, Army employees manage and operate the GOGOs and private companies provide the personnel to manage and operate the GOCOs.

The U.S. Army requires a robust production and maintenance capability to support its forces of the 21st century. That capability relies on a seamless integration of public and private sector competencies, achieved through an increased reliance on public-private partnering on new and current weapon

systems. To support its portion of the partnership, the Army must continue improve its world-class organic production, maintenance, repair and overhaul operations to ensure they are "right-sized" and technologically capable to support operational requirements during peace and war. This requires an adequate investment for the resolution of problems that were created by reduced infrastructure investments during the past decade, establishing a sustained level of investment that is commensurate with private industry, investment in the Army's organic workforce to maintain appropriate skill levels and increase competencies in the high-technology environment, and application of best business practices.

Investment Strategy

For the Army's investment strategy for PB06, the highest priority relates to those actions necessary to maintain essential operational readiness to fight and win the ongoing war on terrorism. To do this, the overall Army budget plan focuses on providing the Army's strategic objectives by building capable and modular forces, and a more ready and relevant Army, and providing a more stable and predictable lifestyle. To accomplish this, the Army is prepared to make adjustments in existing lower priority programs to cover some of the costs of this effort. While significant reductions amounting to approximately $15 billion for the FYDP have been made, the Army still depends to a large degree on congressional support in the form of supplemental appropriations to serve as bridging vehicles for supporting these operational requirements without jeopardizing the essential elements of the ongoing Army effort to fulfill DOD priorities, including transformation.

As part of its efforts to meet the current needs of combatant commanders, the Army is accelerating transformation into a more capable and modular force. Previous time lines for fielding these new capabilities have been advanced, and the conversion to modular formations was initiated in 2004 in response to the urgencies of the current strategic environment and associated operational requirements.

Overall, the Army's plan focuses on three areas in order to support the requirements of the combatant commanders:

- Building a more capable and modular Army by refocusing S&T and procurement to spiral promising technologies into the Current Force, and by a modular conversion of units to create more responsive, standardized and flexible formations that are better able to support new operational requirements.
- Building a more relevant and ready Army by rebalancing the AC and RC, restationing through global posture initiatives, supporting global operations, developing a joint interdependent logistics system, and the changing combat skills training strategy.
- Building a more stable and predictable lifestyle by force stabilization initiatives that will reduce the effects of high deployment and operational tempos and will enhance the quality of life for Soldiers and their families.

The Current Force

The Army today—our Current Force—is fully committed with an over 300,000 Soldiers deployed in 120 countries during the past year. This force includes existing heavy and light divisions and separate brigades, newly fielded SBCTs, and Special Operations Forces. In 2004, the Army initiated a significant restructuring effort to convert existing units into more modular formations, with the ultimate result

being the creation of 10 additional BCTs that will increase the flexibility and responsiveness of the Current Force while also posturing itself for future transformation efforts. This force is the guarantor of today's readiness and the Army's contribution to the ongoing operations in the global war on terrorism. Because of the urgent requirements of these operations, the Army has placed a high priority on efforts to ensure the readiness of units returning from or preparing for contingency missions. Also, as a result of the immediate demands of these missions, the Army has re-examined its investment strategy and has accelerated the application of new emerging capabilities into the Current Force as soon as feasible. The combination of initiatives to restore readiness, convert units into more modular formations, and insert new capabilities are designed to make Army forces more ready and relevant for today's missions and supportive of changes that will further increase capabilities for tomorrow.

The new SBCTs represent a recent and significant improvement to the Current Force. They have already demonstrated their tremendous versatility and survivability in demanding operational missions in Iraq. The second of these new brigades was fielded and deployed in Iraq in 2004, and the third unit will be operationally ready in 2005. Currently approved plans call for a total of six of these responsive and uniquely capable units to be fielded by 2008, with one deployed to Europe by 2007 to represent a new and more strategically agile force in that theater as part of a global reposturing initiative. Additionally, in response to recent congressional support and authorization, the Army is developing and will submit plans for the fielding and stationing of a seventh SBCT.

Setting the Force

As previously mentioned, the Army is involved in implementing a critical reset process to restore and improve the readiness of units returning from and preparing for operational deployments. This comprehensive process combines a variety of efforts that will repair and reconstitute units, simultaneously restructure them into modular formations, and recapitalize and modernize them wherever possible in order to improve overall capabilities. Reset will continue to be key to future readiness as the Army executes its responsibilities as part of the Joint Force.

Related to reset and as part of simultaneous efforts to improve the acquisition and fielding process and ensure that Soldiers have the latest available equipment, the Army has implemented the Rapid Fielding Initiative (RFI) to outfit Soldiers with improved combat gear as they deploy for missions. This process outfitted over 100,000 Soldiers by the end of 2004 with improved combat gear, and by the end of FY07 almost all Soldiers in AC and RC BCTs will have received enhanced capabilities from a basic RFI kit containing about 50 essential items. This initiative dramatically improves the lethality, survivability and endurance for the Soldier—the Army's centerpiece.

In addition to RFI, the Army has also instituted an REF process to provide commercial off-the-shelf or near-term developmental items to forces preparing for or engaged in operational missions. This process provides materiel not available through the traditional supply system, but items that are critical to an immediate requirement. This has included items such as armored kits for vehicles and systems for searching dangerous areas.

A final equipping initiative that has been integrated where possible into the reset process

is the Army's ongoing recapitalization effort. Recapitalization, which is the rebuild and selected upgrade of currently fielded systems to ensure their operational readiness, aims at improving unit effectiveness and warfighting capability, extending service life, and reducing operating and support costs. Because the need to recapitalize systems is significant and exceeds available resources, the Army has focused on selected units and prioritized systems.

Inserting New Technologies and Capabilities

The Army is making a concerted effort to identify those emerging technologies that have the greatest promise for early incorporation into the Current Force. The goal is to exploit opportunities that will enable us to put future technology into the hands of Soldiers today. This will increase readiness and effectiveness of our Army at war today as well as create a Current Force that will serve as a technological bridge to the Future Force.

The ongoing modular conversion of Army units is a critical means of making units more efficient and far more capable of exploiting the range of joint capabilities. These units will be more responsive, standardized and flexible in the Current Force, but they also will be essential vehicles for incorporating the new technologies and capabilities that can be applied earlier from the developmental work underway as part of transformation to a Future Force.

New capabilities will be inserted into the modular BCTs through four planned spirals of technology that will occur between FY08 and FY14. In addition to the accelerated fielding of selected capabilities through this spiral process, there will be continued development and fielding of new capabilities associated with systems already well along in the acquisition process.

The Future Force

The Army is developing a Future Force that will achieve the capabilities necessary to be a strategically responsive, precision maneuver force that is dominant across the range of military operations. This force is not a finite end state as much as a path of continuous change for the future. The Future Force will be equipped with significantly enhanced systems centered on the FCS family of systems and its complementary, key enabling systems such as the Armed Reconnaissance Helicopter (ARH), WIN-T, JTRS and DCGS-A. The Future Force will be designed to operate as part of a joint team, and its joint operational architecture will provide an enhanced C4ISR for dominant situational awareness and precision strike. Through the spiral development process, emerging capabilities from Future Force programs will be inserted into selected components of the Current Force, thus providing force modernization with minimum impact on operational readiness.

Science and Technology Efforts and Priorities

In keeping with the Army's overall transformation strategy, the Army's S&T investment strategy is simultaneously pursuing technologies that have the high potential to enhance the Current Force and enable the Future Force. The strategy of looking to the future while simultaneously providing advanced technologies to the Current Force requires dynamic, agile technology portfolio planning and management. To that end, S&T investments are being focused to accelerate and mature technologies that will enable Future Force (i.e., FCS) capabilities and to create op-

portunities for transitioning these technologies to the Current Force as soon as possible.

The FCS-enabling technologies for Increment I and technologies for spiral insertions to the FCS program represent the Army's largest single S&T investment during the FY06 FYDP—approximately 30 percent of the S&T program. This approach is strategically aligned with the Army's future operational capability needs and maintains an awareness of the lessons learned from current operations. Fundamentally, the Army S&T program is seeking to provide solutions that enable faster, lighter and smarter systems.

While FCS has begun the Systems Development And Demonstration (SDD) phase of acquisition to begin initial fielding in 2014 with the first UA, the S&T community continues to develop technologies for spiral insertions to realize Increment 1 capabilities. Key FCS capabilities being addressed by current technology investments include:

- Networked battle command systems to enable shared situational awareness and improved decision making
- Low-cost, multispectral sensors to find and identify the enemy
- Enhanced survivability through improved sensors to locate and identify threats, signature management, and active and passive protection systems
- Semiautonomous and autonomous unmanned air and ground systems
- Networked lethality through standoff precision missiles and gun-launched munitions

The Army's diverse S&T portfolio invests in a range of technologies to provide solutions to enduring needs across a spectrum of desired capabilities that will enable FCS, Soldiers and other systems in the Unit of Employment and UA. Some of these additional technologies are listed below:

- Mobile, secure, self-organizing networks for seamless joint operations
- Technologies to provide individual Soldiers with platform-like lethality and survivability
- Ultra-lightweight materials and nanotechnology to design materiel properties for optimum Soldier applications
- Lightweight multimission equipment packages for unmanned systems
- Immersive simulations and virtual environment technologies for a Soldier, leader and unit mission rehearsal and training
- Area protection from rockets, artillery and mortars
- Countermine technology for high operational tempo (OPTEMPO) combat and survivability in stability operations
- Advanced weapons including high-power microwave, high-power lasers and electromagnetic guns
- Embedded prognostics and diagnostics to reduce logistical demands for materiel systems
- Lightweight, long-endurance electric power generation and storage
- Biotechnology to obtain unprecedented performance and materials
- Medical technology for self diagnosing and treating "uniform" ensembles
- Physiological status reporting and medical response technologies

The S&T investments are funded in three budget activities (BA) that are characterized

by the three different time frames of output products based upon maturity of the technology. These BAs are basic research (BA6.1), applied research (BA6.2) and advanced technology development (BA6.3). Although not a mandatory progression, most technology products begin as basic research, then are matured to initial application as applied research, and demonstrated during advanced technology demonstration to show readiness for the SDD phase of acquisition.

The near-term focus over the next two to five years is on the development (maturation) and demonstration of technologies in a relevant environment for spiral insertions into the FCS SDD program. FCS and non-FCS specific technologies are being pursued for the Current Force and the Future Force to enable networked operations, increased survivability, more energetic lethality, and reduced logistics demands through technologies such as hybrid propulsion and compact portable power sources.

In the midterm, from five to ten years, the S&T investments are seeking to mature technologies for later demonstration that can enable a full-spectrum FCS and other Future Force systems capabilities. These technologies include:

- Unmanned ground and air systems
- Solid state lasers
- Electromagnetic gun
- Multipurpose gun munitions
- High-powered microwave (nonlethal)

In the far term, beyond ten years, current Army research investments will enable potentially paradigm-shifting capabilities in joint land combat forces such as:

- Completely autonomous ground and air vehicles
- Training and simulation environments with "holodeck" potential
- Compact power sources that are 20 times smaller and lighter than current sources
- Smart structures and materials-by-design—products of research in nanoscience and biotechnology

Balancing Risk—PB06 Investment Strategy

Prior to the events of 11 September 2001, the Army assumed greater risk in the Current Force as it built toward the Future Force. Due to the operational experiences of Operations Enduring and Iraqi Freedom, the Army is shifting resources to reduce operational risk and improve the capabilities of the Current Force. The imperative now lies in finding balance between sustained warfighting requirements and transforming to meet future challenges. Figure 17 depicts the changes.

Our Army remains committed to developing the Future Force capabilities required to wage warfare in the next decade. As operations in Iraq and Afghanistan illustrate, our technological and training superiority is a critical ingredient to our success on the battlefield and must be maintained into the future. The FY06-11 Plan, while recognizing the need for investment, must first respond to the immediate threat presented to our Soldiers. Our Army will focus development efforts on identifying promising technologies and "spiraling" these enhanced capabilities into the Current Force so that our Soldiers continue to have technological overmatch. As capabilities are spiraled into the Current Force, the Current Force will inform the Future Force. Just as our Soldiers are adapting to meet the

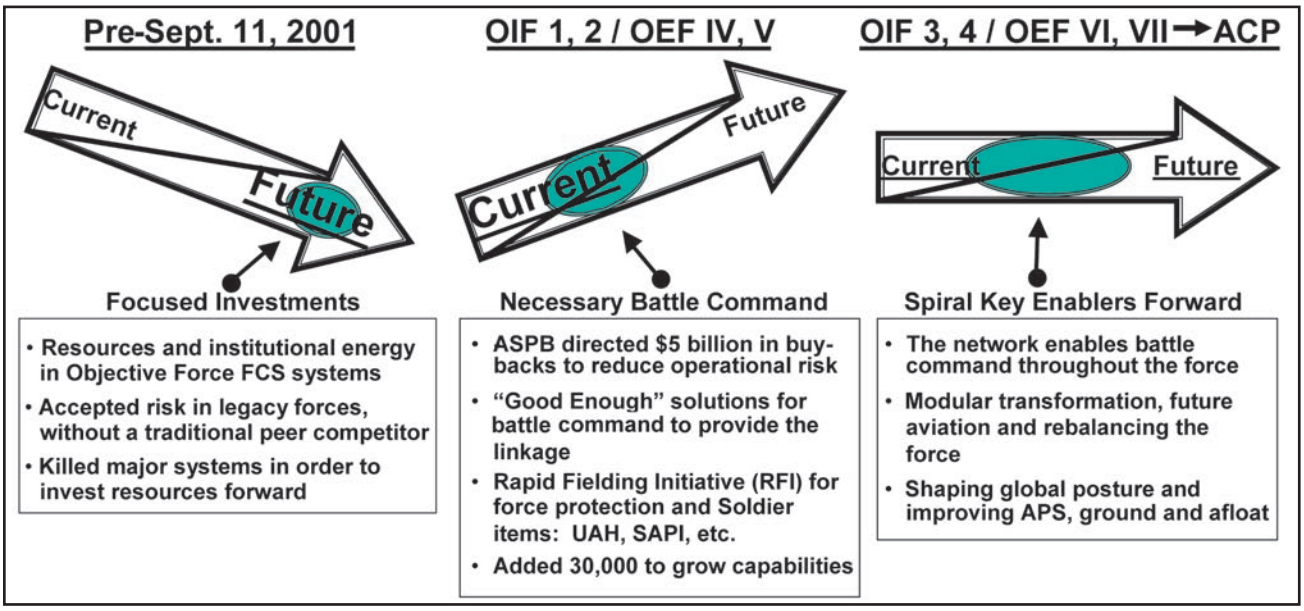

Figure 17. Programming Balance

challenges of the contemporary operating environment, the Army is also changing how innovative technologies are being developed and introduced.

The aggressive and vital reset process underway is primarily dependent on supplemental funding for its successful implementation. Reset and the associated modular force initiative have been supported by the Office of the Secretary of Defense (OSD) and Congress largely supplemental funding, although with some budgetary funding. For FY06, it is anticipated that supplemental and programmed funding will cover the costs of both modular conversions and operation-related reset expenses.

For the continuation and completion of the fielding of six Stryker brigades, the Army will devote $3.1 billion during the FYDP. Additional plans are also being developed, based on increased congressional support in 2004, for the potential fielding of a seventh SBCT. To support the ongoing recapitalization program, which will be coordinated as much as possible with the reset process, the Army has allocated $15 billion during the planning period.

To support the requirements associated with creating a more capable and modular force, the Army has made $15 billion adjustments in its programs and systems. These funds were diverted to augment readiness of the Current Force and to enhance its capabilities through the procurement of equipment.

In the S&T program, the Army has restructured in order to focus on technologies having high potential for enabling key capabilities as soon as possible, including those which can be applied in current conflicts. As a result of this restructure, the Army was unable to maintain S&T at previous PB05 levels. A total of $10.9 billion, however, is still allocated within PB06 for the FYDP for S&T to develop the FCS, address high-priority Future Force capability gaps and enable spiral technology to the Current Force. New initiatives focus on force protection, network-centric systems, and basic research in network science and non-lethal technologies. Investment is increased for the A-160 UAV development, IED countermeasures and the electromagnetic gun technology demonstration.

The restructuring of the FCS program will allow $9 billion to be devoted to the procurement

of new equipment that can be employed by Current Force units as well as by the evolving FCS-equipped units. Thus, the Army is maintaining an appropriate priority on the continued development of future capabilities and systems, while at the same time adjusting programs to permit a more rapid improvement of current capabilities and support to Soldiers today.

2005 ARMY MODERNIZATION PLAN

Summary and Conclusion

Our Army today is both at war and engaged in a process of change to transform itself into a force with increased readiness and relevance for the joint requirements of the present and future. Transformation is engrained in the Army's plans and operations and has also been adapted to take into account the urgent demands on today's forces. As a result of initiatives begun last year after a thorough self-examination using functional focus areas, the Army has embarked on a number of significant initiatives to readjust plans and programs to meet increased demands. New capabilities such as the Stryker brigades have already been fielded and used to support current operations. Aggressive actions are likewise underway in the reset program to restore readiness and improve capabilities of units returning from and preparing for deployments. Major restructuring efforts have also commenced to convert all Army units into modular formations that are better equipped and more ready to support the Joint Force in future operational missions. The ultimate objective is to field campaign-quality Army forces that are better equipped, trained, manned and structured to provide the joint and expeditionary land forces required to support the nation's defense strategy.

The *2005 Army Modernization Plan* reviews the Army's strategy of building and fielding combat-capable units that will preserve and enhance the capabilities of the Current Force and develop more improved capabilities for the evolving Future Force. Accelerated efforts are underway to incorporate emerging technologies into existing systems and units as soon as practical to provide the best support possible to our Soldiers. Results of transformation efforts have already been seen in the form of new formations and new equipment employed in Iraq, and further progress will be increasingly apparent in the coming years.

The *2005 Army Modernization Plan* describes the overall balanced modernization strategy as well as the key enablers that will facilitate the building of combat-capable units. While the materiel aspects of modernizing and transforming the Army are a central theme of the *2005 Army Modernization Plan*, it is essential that modernization be fully coordinated, balanced and synchronized across the critical requirements of doctrine, organizations, training, leadership and education, personnel, and facilities. Respective annexes are devoted to a specific discussion of these essential areas. Above all else, people remain central to the success of the Army's transformation, and Soldiers, imbued with a genuine Warrior Ethos, are the true credentials of the Army—today and tomorrow—just as they have been throughout our nation's history.

With the strong and indispensable support of Congress and OSD, the Army has made considerable progress in the evolving transformation process. Previously, the Army made difficult choices and adjustments such as canceling the Comanche helicopter to fulfill more immediate operational requirements. With more than 300,000 Soldiers deployed and engaged overseas, it has been imperative to re-examine the balance of risks between Current and Future Forces. In this year's budget, PB06, the Army has made

further decisions to divest and restructure existing programs in the amount of $15 billion in order to apply those funds to enhance the readiness and capabilities of current Army forces. Congressional supplemental funding in FY04 and FY05 has also been critical in bridging the gap between support for current and future readiness and continued support will be imperative.

The *2005 Army Modernization Plan* is submitted in conjunction with the release to Congress of PB06, which supports an Army at war and operationally engaged while also continuing to support significant transformation into a more capable and modular force. Specifically, the Army's portion of PB06 submission provides funding for:

- Maintaining essential emphasis on improving the readiness of the Current Force by devoting over $15 billion in the program to the recapitalization of systems in this force and by supporting efforts to restore full readiness for future missions for units involved in recent operations.
- Programming over $13 billion toward the modular conversions of 77 BCTs. This funding, in conjunction with the Army's supplemental strategy and the recent DOD commitment to add $5 billion per year from FY07-11 to support conversion requirements, will permit completion of the Army's modular transformation by FY10.
- Providing $3.1 billion to complete funding of six SBCTs by 2008 and submitting fielding and stationing plans for the potential fielding of a seventh SBCT.
- Accelerating the development and spiraling forward of transformational technologies into Current Force units by restructuring the FCS program and freeing up approximately $9 billion for this purpose.
- Focusing S&T investment of approximately $10.9 billion over the FYDP in the development of capabilities primarily applicable to the Future Force, though with potential application to Current Force units and systems.

The Army's priority is focused on sustaining our global commitments by preserving and improving the operational readiness of the Current Force and effectively supporting our Soldiers deployed and engaged in the global war on terrorism. In conjunction with this focus, the Army has begun to institutionalize a fundamental restructuring into more modular formations that will be increasingly responsive and more capable of executing all missions assigned the Joint Force today and in the future. This latter effort is a fundamental part of the Army's continuing transformation into a more ready and relevant force. This transformation is also built upon the significant development and application of new technologies, including the increased efforts to spiral these emerging technologies into existing systems as soon as feasible. These overall modernization efforts include a dynamic assessment of associated risks in order to maintain the correct balance between current and future readiness and requirements.

Much progress has already been made, thanks to the considerable support from Congress and the DOD in the form of annual and supplemental appropriations. Continued and increased funding will be required, however, and the Army is fully committed and determined to succeed in both the ongoing global war on terrorism and in the evolution of an improved force capable of meeting the land power needs of the Joint Force. Our nation and our Soldiers demand and deserve nothing less than our full efforts, and we can and must succeed.